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PRELIMINARY MONTHLY INDEXES.

JUNE, 1906.

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JUNE, 1906.

This index includes the names of actual inventors, applicants, and other persons or corporations noted in applications or proceedings during this month, under the *Patents Act 1903.*

When the applicant is an agent or a corporation, the surname of an actual inventor, assignor, or communicator is added in parentheses, such other names being also indexed under their proper letters.

When fresh names occur in notices of proceedings subsequent to the application, the words *assignee, opponent, licensee*, &c., will be added in italics, to indicate the nature of their interest in the application.

The abbreviated titles in the second column should not be regarded as completely descriptive of the invention.

The letter "P" prefixed to a number indicates that the application was accompanied by a Provisional Specification; "C.a P." indicates that during the month a Complete Specification was lodged, following a Provisional Specification; other numbers are applications with complete Specifications.

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Ward, J.	Metal tubes	6135
Waters, E. N. (Wood)	Stereotypes	6296
,, E. N. (Wurtz)	Distilling hydrocarbons	P. 6263
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Watt, H.	Mail bag, &c., label	P. 6221
Waygood & Johns Ld., &	Lift doorways	C.a.P. 4092
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Whelan, T. J.	Knife cleaner	C.a.P. 4062
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,, E.	Loading wheat	6092
,, W., &	Insulating cold chambers	P. 6107
Whitehouse, I. & F. A.	Valves for cocks, &c.	C.a.P. 4229
Wilkins, J. T.	Fire extinguisher	P. 6134
Williams, R. J.	Harvester screens	P. 6085

Name.	Subject.	Number.
Williamson, A.	Fence standard	P. 6099
Wilson, D.	Connecting hook	P. 6152
Withington, A., &	Boot linings	6185
Witt, T. W.	Parcel straps	P. 6057
Wood, E. (*assignee*)	Scaffolding bracket	3200
,, H. A. W., &	Stereotypes	6296
Wurtz, H., &	Distilling hydrocarbons	P. 6263
Youlten, W.	Cotton machines	P. 6075
Young, C. E.	Branding liquid	6244
Ziegler, B.	Bicycle connexion	P. 6290

THEMATIC GROUPING OF SUBJECTS.

	Group Number.	Principal Subjects of each Group.		Group Number.	Principal Subjects of each Group.
ELECTRICITY. CHEMISTRY. PHYSICS.	00	Science	PRINTING. COMMERCE.	50	Typographic printing
	01	Music		51	Lithography, &c.
	02	Dynamo electric machinery		52	Photography
	03	Electric railways and power		53	Amusements
	04	Electric apparatus		54	Commerce
	05	Telegraphy and telephony		55	Money
	06	Electric lamps		56	Counting, measuring, weighing
	07	Electrolysis and batteries		57	Packing, compressing, bottling
	08	Mineral chemistry		58	Chains, ropes, wire
	09	Organic chemistry		59	Conveying and lifting
METALLURGY.	10	Crushing and grinding	PUMPS. KINEMATICS. MOTIVE POWER.	60	Mechanism ; lubrication
	11	Mech. and elec. separation		61	Governors
	12	Hyd. and pneu. separation		62	Power storage
	13	Amalgamation		63	Steam power
	14	Leaching metallurgy		64	Cranked engines
	15	Metallurgy in furnaces		65	Reciprocating motors
	16	Furnaces		66	Gas and oil engines
	17	Chimneys, fumes, smoke		67	Turbines ; rotary motors
	18	Stones, cement, &c.		68	Pumps for liquids
	19	Glass and ceramics		69	Blowers and compressors
CLEANING. HEATING & LIGHTING.	20	Solid and liquid fuel	HARDWARE. METAL WORKING.	70	Casting and stamping
	21	Gas for light and heat		71	Forging, rolling, &c.
	22	Candles and lamps		72	Turning ; milling ; fitting
	23	Bunsen and incand. burners		73	Sheet metal work
	24	Domestic heating ; cooking		74	Pipes and fittings
	25	Washing ; cleaning ; brushes		75	Abrading and polishing
	26	Bleaching and dyeing		76	Cutlery
	27	Beverages		77	Locks, bolts, safes, &c.
	28	Distillation and filtration		78	Structural hardware
	29	Refrigeration		79	Paints, adhesives, &c.
ANIMALS. FOOD & AGRICULTURE.	30	Ploughing	SOCIAL. PUBLIC WORKS.	80	Carpentry
	31	Cultivators		81	Buildings, streets, fencing
	32	Harvesting		82	Harbors, foundations
	33	Tropiculture		83	Waterworks
	34	Cereals, vegetables, fruit		84	Excavation and dredging
	35	Meat food		85	Mining
	36	Dairy food		86	Sanitation
	37	Pastoral		87	Medicine
	38	Fowling, fishing, trapping		88	Salvage, accidents
	39	Harness ; animal power		89	War
CLOTHING. FURNITURE. PAPER.	40	Textile materials	RAILWAYS. TRANSPORTATION.	90	Wind and flying machines
	41	Weaving		91	Ship building
	42	Sewing		92	Marine propulsion
	43	Wearing apparel		93	Road vehicles
	44	Boots and shoes ; umbrellas		94	Cycles
	45	Furniture		95	Locomobiles
	46	Upholstery		96	Rolling stock
	47	Leather and plastics		97	Wheels
	48	Paper ; bookbinding		98	Permanent way
	49	Clerical, scholastic, artistic		99	Signalling

CLASSIFIED SUBJECT INDEX TO SPECIFICATIONS LODGED.

JUNE, 1906.

A full description of the system of classification is in preparation ; the general nature is shown by the Table of Thematic Grouping of Subjects shown on the opposite page, in which the principal contents of each group is briefly stated, although the few words therein printed cannot completely indicate the whole range of subjects included in the group. The vertically printed subjects indicate the mutual relations of adjoining groups, and also demonstrate the unavoidability of overlapping and the impossibility of confining subject-matter to a single heading, in any scheme of classification ; in the present arrangement propinquity of numbering indicates as far as possible some relationship of subject-matter.

Each group will be divided into 10 classes and 100 sub-classes, numbered as in the Dewey Library System, but as the number of entries for a single month is not sufficiently great to require arrangement under the classes or sub-classes, only the group headings are used and the class numbers are prefixed to the entries. The lists will be further divided in the annual consolidation.

The entries have been prepared from a preliminary inspection of the documents, and may be revised after Illustrated Abridgments of the specifications have been prepared ; for the full wording of the applicants' titles reference must be made to the *Journal*, under notices of Applications Received.

The numbers stated in parentheses after the descriptive title indicate that the invention also contains details relating to those classes.

The surname following the title is that of an actual inventor (or applicant), and is given to facilitate the discrimination of inventions having closely related titles. The full particulars of names, addresses, &c., may be found by reference to the *Journal* under notices of Applications Received.

The letter "P" prefixed to a number indicates that the application was accompanied by a Provisional Specification ; "C.a.P." indicates that during the month a Complete Specification was lodged, following a Provisional Specification ; other numbers are Complete Specifications.

Class.	Title.	Name.	Number.
	Group 00.—Science.		
00.1	Automatic time switch. (04.3)	Taylor	P. 6123
00.4	Enabling vehicle drivers to obtain a rear view. (93.9 ; 95.9)	Raven	P. 6297
00.7	Wet wool determinator. (00.8 ; 57.4)	McLeod	P. 6166
	Group 01.—Music.		
01.2	Pianofortes, organs, &c. (01.6)	Clutsam	P. 6129
01.7	Coin operated multiplex talking machine. (55.7)	Leschbrandt	6207
01.7	Phonograph funnel	MacLaren	P. 6238
01.8	Music leaf turner	Coleman	P. 6080
01.8	Music leaf turner	Reed	P. 6128
	Group 02.—Dynamo Electric Machinery.		
02.1	Magnetic ore separation. (11.7)	Ullrich	C.a.P. 5377
02.2	Reducing self-induction in electric furnaces. (06.8)	Kjellin	6070
02.2	Connecting armatures to the commutator	Krieger	6286
02.3	Self-propelled vehicles. (67.1 ; 95.2 ; 95.4)	Krieger	6287
	Group 03.—Electric Railways and Power.		
03.0	Electrical conduction. (03.1 ; 99.2)	Buckeridge	6112
	Group 04.—Electric Apparatus.		
04.1	Electrical therapeutic appliance. (87.8)	Dowling	6284
04.3	Automatic time switch. (00.1)	Taylor	P. 6123

Class.	Title.	Name.	Number.

Group 05.—Telegraphy and Telephony.

05.2	System of transmitting electric telegraphy	Kitsee	P. 6208
05.2	Simultaneous telegraph apparatus	Leivesley	6274
05.5	Wave detector for wireless telegraphy	Allen	6051
05.5	Vacuum tubes, &c. (06.1; 06.6)	Moore	6228

Group 06.—Electric Lamps.

06.1	Vacuum tubes, &c. (05.5; 06.6)	Moore	6228
06.6	Pendants or supports for electric lamps	Smith	6065
06.8	Reducing self-induction in electric furnaces. (02.2)	Kjellin	6070
06.8	Electric furnace	Snyder	6230
06.8	Treating ores. (08.2; 08.4; 15.6)	Snyder	6231

Group 07.—Electrolysis and Batteries.

07.6	Copper from its ores. (08.1; 14.1)	Jumau	6204

Group 08.—Mineral Chemistry.

08.1	Copper from its ores. (07.6; 14.1)	Jumau	6204
08.2	Treating ores. (06.8; 08.4; 15.6)	Snyder	6231
08.4	Distilling coals, shales, &c. (09.3; 20.6; 28.6)	Wurtz	P. 6263
08.5	Antimony and arsenic from ores, &c. (14.1)	Masson	6068
08.6	Oxygen from oxygenated salts. (20.4; 89.8)	Jaubert	6146
08.6	Oxygen briquettes. (20.4; 89.8)	Jaubert	6147
08.6	Oxygen generator. (21.5)	Jaubert	6148

Group 09.—Organic Chemistry.

09.3	Distilling coals, shales, &c. (08.4; 20.6; 28.6)	Wurtz	P. 6263

Group 10.—Crushing and Grinding.

10.1	Feeding pulverized sulphide ores to treating machines. (59.6)	Gillies	P. 6163
10.2	Screens of stamp batteries. (13.1; 13.6)	Painter	P. 6240
10.7	Chaff cutters. (34.2)	Davidson	C.a.P. 4008
10.7	Bearings and attachments for chaff-cutters. (34.2)	Davidson	C.a.P. 4009
10.7	Clamp for chaff-cutter knife spindle. (34.2)	Davidson	C.a.P. 4010
10.7	Vegetable chopper, &c. (34.7; 76.8)	MaKay	P. 6198

Group 11.—Mech. and Elec. Separation.

11.3	Gold-saving machine. (11.4; 12.1; 13.1)	Rodda	C.a.P. 3753
11.3	Classifying or vanning ores, &c. (11.4; 12.1)	Ullrich	C.a.P. 5385
11.3	Centrifugal separator for gold, &c. (12.3)	Nicholson	C.a.P. 5403
11.3	Atmospheric filter frame, &c. (28.1)	James	6246
11.6	Centrifugal separator and amalgamator. (13.4)	Nicholson	P. 6084
11.7	Magnetic ore separation. (02.1)	Ullrich	C.a.P. 5377

Group 12.—Hyd. and Pneu. Separation.

12.1	Gold-saving machine. (11.3; 11.4; 13.1)	Rodda	C.a.P. 3753
12.1	Classifying or vanning ores, &c. (11.3; 11.4)	Ullrich	C.a.P. 5385
12.3	Centrifugal separator for gold, &c. (11.3)	Nicholson	C.a.P. 5403
12.7	Dry-blower and dry-jigger for saving gold and tin	Carlson	6168

Group 13.—Amalgamation.

13.1	Gold-saving machine. (11.3; 11.4; 12.1)	Rodda	C.a.P. 3753
13.1	Screens of stamp batteries. (10.2; 13.6)	Painter	P. 6240
13.4	Centrifugal separator and amalgamator. (11.6)	Nicholson	P. 6084

Group 14.—Leaching Metallurgy.

Class.	Title.	Name.	Number.
14.1	Antimony and arsenic from ores, &c. (08.5)	Masson	6068
14.1	Copper from its ores. (07.6 ; 08.1)	Jumau	6204
14.1	Acid process, separating sulphide ores	de Bavay	P. 6239

Group 15.—Metallurgy in Furnaces.

Class.	Title.	Name.	Number.
15.6	Treating ores. (06.8 ; 08.2 ; 08.4)	Snyder	6231

Group 16.—Furnaces.

Class.	Title.	Name.	Number.
16.4	Water jacket reverberatory furnace. 16.7)	Harrison	P. 6109
16.4	Treating materials by heat	Dennis	6211
16.8	Clinkering furnace tools	Jacobs	C.a.P. 4150
16.8	Forced draft for fire-engines, &c. (63.7 ; 88.1)	Sutcliffe	P. 6201

Group 17.—Chimneys, Fumes, Smoke.

Class.	Title.	Name.	Number.
17.8	Spark arresters	Mayo	6141

Group 18.—Stones, Cement, &c.

Class.	Title.	Name.	Number.
18.7	Weed prevention on railways. (31.5 ; 98.3)	Harwood	C.a.P. 4021

Group 19.—Glass and Ceramics.

Class.	Title.	Name.	Number.
19.1	Flower pot. (31.9)	Davies	P. 6192

Group 20.—Solid and Liquid Fuel.

Class.	Title.	Name.	Number.
20.4	Oxygen from oxygenated salts. (08.6 ; 89.8)	Jaubert	6146
20.4	Oxygen briquettes. (08.6 ; 89.8)	Jaubert	6147
20.6	Distilling coals, shales, &c. (08.4 ; 09.3 ; 28.6)	Wurtz	P. 6263

Group 21.—Gas for Light and Heat.

Class.	Title.	Name.	Number.
21.3	Heating steam generators by liquid fuel. (63.4)	Serpollet	6289
21.5	Oxygen generator. (08.6)	Jaubert	6148
21.6	Saftey valve. (74.7 ; 88.2)	Jenczewsky	6195
21.6	Electrically-operated safety valve. (74.7 ; 88.2)	Jenczewsky	6196
21.81	Acetylene gas table lamps	Tyree	C.a.P. 4115
21.89	Acetylene gas generator	Houston	C.a.P. 4625

Group 22.—Candles and Lamps.

Class.	Title.	Name.	Number.
22.1	Spring-grip candlestick	Cuningham	P. 6225
22.4	Self-grip and draw-off attachment for vessels. (*Sec.* 7.) (74.8)	Saunders	6175
22.4	Tank for storing and measuring-off kerosene, &c. (56.5)	Marshall	P. 6199
22.5	Reflecting trough for billiard-tables. (53.6)	Tatham	P. 6278

Group 23.—Bunsen and Incand. Burners.

(No entries.)

Group 24.—Domestic Heating; Cooking.

Class.	Title.	Name.	Number.
24.2	Copper frame and ironing stove. (24.5; 25.7)	Power	C.a.P. 4050
24.2	Cooking range and hot-water boiler. (24.5)	Klaerr	C.a.P. 5228
24.2	Holder for long wood fuel for stoves, &c.	Lockley	P. 6133
24.5	Cooking strainer. (24.7)	Torrens	C.a.P. 3767
24.5	Domestic water heater	Ponninghaus	CaP 3987
24.5	Heating vessel	Kingston	P. 6131
24.5	Travelling outfit for making tea. (24.7; 57.8)	McCausland	6283
24.7	Adjustable meat stand. (76.8)	Hastwell	P. 6197

Group 25. Washing; Cleaning; Brushes.

Class.	Title.	Name.	Number.
25.1	Marking plastic substances. (50.0; 54.1)	Pearce	P. 6144
25.5	Bottle-washing machine. (27.7; 34.7)	Nash	6161
25.6	Adjusting height of clothes lines	Anstis	P. 6138
25.7	Copper frame and ironing stove. (24.2; 24.5)	Power	C.a.P. 4050
25.9	Vacuum cleaning apparatus. (28.3)	Doyle	6116
25.9	Suction dust extractor for carpets, &c.	Blum	6186

Group 26.—Bleaching and Dyeing.

(No entries.)

Group 27.—Beverages.

Class.	Title.	Name.	Number.
27.1	Improving the quality of wine, &c. (28.2)	Nilsson	6149
27.1	Water purifer. (29.5; 36.3)	Dixon	P. 6183
27.5	Valve-operating mechanism for bottling sauces, &c. (57.5)	Dyason	P. 6122
27.7	Bottle-washing machine. (25.5; 34.7)	Nash	6161
27.7	Dispensing apparatus for liquids. (54.7)	Cory	6226
27.8	Dispensing aerated waters and beers. (54.7)	Flay	C.a.P. 6137

Group 28.—Distillation and Filtration.

Class.	Title.	Name.	Number.
28.1	Puddler's pump. (68.3)	Ellis	P. 6110
28.1	Water filter	Nightingall	P. 6136
28.1	Filter-press plates	Edmands	P. 6165
28.1	Gravity filter	Gieseler	6193
28.1	Atmospheric filter frame, &c. (11.3)	James	6246
28.2	Improving the quality of wine, &c. (27.1)	Nilsson	6149
28.3	Vacuum cleaning apparatus. (25.9)	Doyle	6116
28.6	Distilling coals, shales, &c. (08.4; 09.3; 20.6)	Wurtz	P. 6263

Group 29.—Refrigeration.

Class.	Title.	Name.	Number.
29.3	Food and cooling show case. (54.7)	Walker	P. 6127
29.5	Water purifer. (27.1; 36.3)	Dixon	P. 6183
29.5	Cooling air for refrigerating. (29.7)	Rayson	P. 6209
29.7	Insulation for cold chambers, &c. (48.1)	White	P. 6107

Class.	Title.	Name.	Number.

Group 30.—Ploughing.

30.2	Breaking down and uprooting scrub	Conlon	C.a.P. 4156
30.2	Portable winch with folding supports. (59.1)	Cotton	P. 6223
30.3	Plough or cultivator	Harris	C.a.P. 4064
30.3	Potato seed planter attachment for ploughs, &c. (31.1)	Crump	C.a.P. 4163
30.3	Reversible plate share and foot for ploughs, &c.	Shearer	P. 6093
30.3	Ploughs	McInnes	6114
30.3	Ploughshares	Sachse	6306
30.9	Attachment of stump-jump bodies upon implements	Shearer	P. 6094
30.9	Stump-jump agricultural implements	Hamdorf	P. 6216
30.9	Disc ploughs or cultivators	Barger	P. 6294

Group 31.—Cultivators.

31.1	Potato seed planter attachment for ploughs, &c. (30.3)	Crump	C.a.P. 4163
31.1	Fertilizer feed for onion drills	Dawson	P. 6067
31.1	Seed sowers and fertilizers	Stephens	P. 6119
31.5	Weed prevention on railways. (18.7 ; 98.3)	Harwood	C.a.P. 4021
31.5	Destroying weeds and grass by fire	Hull	P. 6143
31.7	Manure and method of mixing and preparing	Renard	6089
31.7	Fertilizer from waste animal products. (47.0)	McIntyre	6265
31.9	Pneumatic sprayer. (37.8)	Ferrier	C.a.P. 4077
31.9	Flower pot. (19.1)	Davies	P. 6192

Group 32.—Harvesting.

32.3	Grain harvesters. (32.6)	Charlton	C.a.P. 4394
32.3	Beaters and deflectors for strippers	Dunstan	C.a.P. 5785
32.3	Grain harvester	Charlton	P. 6187
32.3	Grain harvester, threshing the heads of grain	Charlton	P. 6188
32.3	Grain harvester	Charlton	P. 6189
32.3	Grain harvester, threshing the heads of grain	Charlton	P. 6190
32.3	Combs and comb mechanism for stripper-harvesters	Montgomery	P. 6194
32.3	Combs of harvesters	Burke	P. 6233
32.6	Cleaning the revolving screens of harvesters	Williams	P. 6085

Group 33.—Tropiculture.

33.5	Tobacco pipe cover	Alexander	P. 6271
33.5	Apparatus for cleaning smokers' pipes	Glennon	P. 6285

Group 34.—Cereals, Vegetables, Fruit.

34.2	Chaff-cutters. (10.7)	Davidson	C.a.P. 4008
34.2	Bearings and attachments for chaff-cutters. (10.7)	Davidson	C.a.P. 4009
34.2	Clamp for chaff-cutter knife spindle. (10.7)	Davidson	C.a.P. 4010
34.6	Compressed yeast and method of producing	Friedenreich	P. 6167
34.7	Bottle-washing machine. (25.5 ; 27.7)	Nash	6161
34.7	Vegetable chopper, &c. (10.7 ; 76.8)	McKay	P. 6198

Group 35.—Meat Food.

(No entries.)

Group 36.—Dairy Food.

Class.	Title.	Name.	Number.
36.1	Milking appliances	Jeffries	P. 6173
36.1	Milking machines	Raven	P. 6236
36.1	Milking machine mechanism. (60.1)	Ljungström	P. 6299
36.2	Milk and cream cooling tank and apparatus	Mills	6139
36.2	Receiving milk and cream at butter factories. (59.9)	Smith	P. 6300
36.2	Milk can	Hawkes	P. 6307
36.3	Water purifier. (27.1; 29.5)	Dixon	P. 6183
36.8	Subdividing blocks of butter	Treeby	P. 6164

Group 37.—Pastoral.

37.4	Branding tool. (79.3)	Young	6244
37.8	Pneumatic sprayer. (31.9)	Ferrier	C.a.P. 4077

Group 38.—Fowling; Fishing; Trapping.

38.6	Rabbit trap	Janson	P. 6153
38.6	Rabbit-trapping fence	Alkemade	P. 6154
38.6	Self-setting animal trap	Holmes	P. 6179
38.6	Rabbit trap	Lister	P. 6251
38.6	Trap for rabbits, &c.	Hayes	P. 6277
38.7	Trap for rabbits, &c.	Rasmussen	P. 6237
38.9	Appartus to force fumigations into rabbit burrows	Brightfield	P. 6104

Group 39.—Harness; Animal Power.

39.6	Shaft tug liner	Corcoran	C.a.P. 4035
39.6	Horse collars	Finnigan	P. 6235

Group 40.—Textile Materials.

40.1	Cleaning cotton waste. (40.3)	Youlten	P. 6075
40.1	Retting, cleaning, and drying fibrous materials	Rogers	6273

Group 41.—Weaving.

41.5	Forming metallic garment stays. (43.1; 58.5)	Mallett	6229

Group 42.—Sewing.

42.1	Needles for stitching boots, shoes, &c. (42.7)	Degail	P. 6091
42.3	Sewing machines for garment pads. (43.3)	Goldman	6232

Group 43.—Wearing Apparel.

43.1	Measuring and marking ladies' short skirts, &c.	Gayner	6222
43.1	Forming metallic garment stays. (41.5; 58.5)	Mallett	6229
43.3	Shoulder straps and hose suspenders. (43.9; 87.3)	Ralph	P. 6182
43.3	Sewing machines for garment pads. (42.3)	Goldman	6232
43.6	Neck-tie attachments. (43.9)	Harding	P. 6126
43.8	Stamping hats, caps, or boots. (44.1; 50.7)	Rusden	C.a.P. 5832
43.8	Cardboard boxes. (48.5)	Jenkins	P. 6292
43.9	Attachment for serviettes, dusters, &c. (76.5)	Moore	P. 6298

Group 44.—Boots and Shoes; Umbrellas.

Class.	Title.	Name.	Number.
44.1	Boot upper	Irons	C.a.P. 4040
44.1	Stamping hats, caps, or boots. (43.8; 50.7)	Rusden	C.a.P. 5832
44.1	Lining of boots and shoes	Withington	6185
44.1	Shoe lace securing devices	McDaniel	6203
44.1	Machine for assembling parts of boots, &c. (44.5)	Ashton	P. 6218
44.1	Pounding-up machines. (44.5)	Ashton	P. 6219
44.3	Boot and shoe heels	Hicks	P. 6120
44.3	Metallic boot insole. (87.8)	Leckie	P. 6254
44.3	Slip preventer for boots. (53.1)	Rodda	P. 6255
44.3	Heel cushion for boots and shoes	Wallace	P. 6304
44.5	Machines for inserting fasteners in boots, &c. (78.1)	Davey	C.a.P. 4246
44.7	Fastener for leggings	Hardwick	P. 6281
44.8	Umbrellas	Rowland	P. 6249

Group 45.—Furniture.

Class.	Title.	Name.	Number.
45.1	Movable seats. (49.6)	Hume	P. 6264
45.3	Kitchen and washstand table. (45.5; 45.6)	Schröder	P. 6061
45.3	Convertible billiard and dining table. (53.6)	Alcock	P. 6142
45.6	Portable safe for food	Bourke	C.a.P. 4175

Group 46.—Upholstery.

Class.	Title.	Name.	Number.
46.6	Curtain rod	Prince	P. 6066

Group 47.—Leather and Plastics.

Class.	Title.	Name.	Number.
47.0	Fertilizer from waste animal products. (31.7)	McIntyre	6265
47.5	Rubber from rubber waste	Köneman	6071
47.5	Rubber from rubber waste	Köneman	6072
47.5	Rubber from rubber waste	Köneman	6073
47.5	Elastic substance like india-rubber	Roland	6205
47.5	Resilient tire for wheels. (97.8)	Roland	6206
47.9	Artificial cork	Coale	6200

Group 48.—Paper; Bookbinding.

Class.	Title.	Name.	Number.
48.1	Insulation for cold chambers, &c. (29.7)	White	P. 6107
48.3	Anti-creaser for letterpress printing machines. (50.8)	Parker	P. 6124
48.5	Collapsible box	McPherson	P. 6270
48.5	Cardboard boxes. (43.8)	Jenkins	P. 6292

Group 49.—Clerical; Scholastic; Artistic.

Class.	Title.	Name.	Number.
49.6	Movable seats. (45.1)	Hume	P. 6264

Group 50.—Typographic Printing.

Class.	Title.	Name.	Number.
50.0	Marking plastic substances. (25.1; 54.1)	Pearce	P. 6144
50.2	Casting curved stereotypes	Wood	6296
50.4	Automatic word counter for typewriters. (56.2)	Weston	P. 6177
50.5	Type-casting machine	Nuernberger	6214
50.5	Type-casting moulds	Nuernberger	6215
50.7	Stamping hats, caps, or boots. (43.8; 44.1)	Rusden	C.a.P. 5832
50.8	Anti-creaser for letterpress printing machines. (48.3)	Parker	P. 6124

Group 51.—Lithography, &c.

(No entries.)

Group 52.—Photography.

Class.	Title.	Name.	Number.
52.1	Repeating photographic dark slide	McArdle	P. 6115
52.4	Developing photographic plates, films, &c.	Kelly	6191

Group 53.—Amusements.

53.1	Game targetto. (89.5)	Temple	P. 6132
53.1	Slip preventer for boots. (44.3)	Rodda	P. 6255
53.1	Spring trap	West	P. 6275
53.5	Aquatic roundabout. (91.6)	Sutherland	C.a.P. 4851
53.6	Convertible billiard and dining table. (45.3)	Alcock	P. 6142
53.6	Billiard table pocket	Smith	6257
53.6	Reflecting trough for billiard tables. (22.5)	Tatham	P. 6278
53.9	Reciprocal movement. (73.2; 93.3; 94.3)	Gilbert	6076

Group 54.—Commerce.

54.1	Marking plastic substances. (50.0; 25.1)	Pearce	P. 6144
54.3	Coin-freed apparatus for postage stamps. (55.7)	Walker	6210
54.3	Fastening and label check for mail bags, &c.	Watt	P. 6221
54.7	Food and cooling show case. (29.3)	Walker	P. 6127
54.7	Dispensing aerated waters and beers. (27.8)	Flay	C.a.P. 6137
54.7	Dispensing apparatus for liquids. (27.7)	Cory	6226

Group 55.—Money.

55.7	Coin in the slot machines	Peters	P. 6083
55.7	Coin-operated multiplex talking machine. (01.7)	Leschbrandt	6207
55.7	Coin-freed apparatus for postage stamps. (54.3)	Walker	6210

Group 56.—Counting, Measuring, Weighing.

56.2	Automatic word counter for typewriters. (50.4)	Weston	P. 6177
56.5	Tank for storing and measuring-off kerosene, &c. (22.4)	Marshall	P. 6199
56.5	Disinfectant measurer to flushing cisterns. (86.2)	Jarvis	6217

Group 57.—Packing, Compressing, Bottling.

57.2	Hinge for boxes, cases, &c. (78.5)	Remfry	6172
57.3	Treating substances under pressure. (65.1)	Baker	P. 6050
57.3	Wire-bale tie-making machine. (58.5)	Ferris	6303
57.4	Wet-wool determinator. (00.7; 00.8)	McLeod	P. 6166
57.5	Valve-operating mechanism for bottling sauces, &c. (27.5)	Dyason	P. 6122
57.5	Bottle stoppers	Cordes	6234
57.6	Non-refillable bottle	Crichton	P. 6062
57.6	Non-refillable bottle	Taylor	P. 6074
57.6	Bottles and stoppers	Payne	P. 6269
57.8	Handle for parcel straps, &c.	Witt	P. 6057
57.8	Travelling outfit for making tea. (24.5; 24.7)	McCausland	6283

Group 58.—Chains, Ropes, Wire.

58.3	Clip for retaining fencing wire. (81.8)	Larkin	6055
58.3	Wire strainers. (81.8)	Moore	6056
58.5	Coiled wire fabrics	Pine	6059
58.5	Forming metallic garment stays. (41.5; 43.1)	Mallett	6229
58.5	Wire-bale tie-making machine. (57.3)	Ferris	6303

Group 59.—Conveying and Lifting.

Class.	Title.	Name.	Number.
59.1	Portable derrick for loading lorries, &c.	McFarlane	P. 6069
59.1	Elevator for loading wheat into waggons, &c. (59.9; 93.1)	White	6092
59.1	Combination hoisting devices	Simes	P. 6118
59.1	Portable winch with folding supports. (30.2)	Cotton	P. 6223
59.1	Operating gear for lever-jacks, stump-pullers, &c.	Brown	P. 6241
59.2	Safety arrangement for hydraulic lifts. (78.8)	Cox	C.a.P. 3995
59.2	Safety appliances for lift doorways. (81.5)	Pearce	C.a.P. 4092
59.2	Safety device for mining cages	Stephens	C.a.P. 4234
59.2	Safety appliance for lift doorways	Walters	P. 6063
59.2	Automatic lift-door release	Burkett	P. 6308
59.5	Unloading coal from ships. (91.8)	Jörgensen	P. 6130
59.6	Feeding pulverized sulphide ores to treating machines. (10.1)	Gillies	P. 6163
59.9	Receiving milk and cream at butter factories. (36.2)	Smith	P. 6300

Group 60.—Mechanism; Lubrication.

Class.	Title.	Name.	Number.
60.1	Milking machine mechanism. (36.1)	Ljungström	P. 6299
60.2	Pitch-chains and sprockets	Davidson	6054
60.2	Automobile trains. (62.8; 95.7; 95.9)	De Luigi	6162
60.8	Centrifugal pumps for dredging	Park	P. 6184

Group 61.—Governors.

(No entries.)

Group 62.—Power Storage.

Class.	Title.	Name.	Number.
62.1	Water lift. (67.4)	Conlon	C.a.P. 4162
62.1	Air motive power and driving mechanism. (65.3; 69.4)	Smith	P. 6060
62.5	Storage of electrically transmitted energy. (82.4)	Fox	6248
62.7	Grooved belt pulley for motor cycles, &c. (95.9)	Laird	P. 6174
62.8	Automobile trains. (60.2; 95.7; 95.9)	De Luigi	6162

Group 63.—Steam Power.

Class.	Title.	Name.	Number.
63.1	Converting chemical energy into kinetic energy of fluid. (66.5; 67.1)	Vogt	6158
63.1	Steam-engines. (64.2)	Auldjo	P. 6268
63.2	Steam-boiler water-feeders	Callinan	6253
63.4	Heating steam generators by liquid fuel. (21.3)	Serpollet	6289
63.7	Forced draft for fire-engines, &c. (16.8; 88.1)	Sutcliffe	P. 6201
63.8	Locomotives. (95.4)	Reid	6155

Group 64.—Cranked Engines.

Class.	Title.	Name.	Number.
64.2	Steam-engines. (63.1)	Auldjo	P. 6268

Group 65.—Reciprocating Motors.

Class.	Title.	Name.	Number.
65.1	Treating substances under pressure. (57.3)	Baker	P. 6050
65.3	Air motive power and driving mechanism. (62.1; 69.4)	Smith	P. 6060

Group 66.—Gas and Oil Engines.

Class.	Title.	Name.	Number.
66.0	High-speed explosion engines	Morris	P. 6106
66.2	Internal combustion engines. (66.8)	Vogt	6159
66.5	Converting chemical energy into kinetic energy of fluid. (63.1; 67.1)	Vogt	6158

Group 67.—Turbines; Rotary Motors.

Class.	Title.	Name.	Number.
67.1	Converting chemical energy into kinetic energy of fluid. (63.1; 66.5)	Vogt	6158
67.1	Self-propelled vehicles. (02.3; 95.2; 95.4)	Krieger	6287
67.2	Centrifugal fens for air treatment. (69.6; 90.9)	Paley	P. 6086
67.2	Turbines	Parsons	6090
67.4	Water lift. (62.1)	Conlon	C.a.P. 4162
67.7	Rotary engines	Dod	P. 6121
67.7	Rotary engine	Haines	P. 6150

Group 68.—Pumps for Liquids.

Class.	Title.	Name.	Number.
68.3	Puddler's pump. (28.1)	Ellis	P. 6110
68.3	Pumps and valves. (74.7)	Thompson	6151

Group 69.—Blowers and Compressors.

Class.	Title.	Name.	Number.
69.4	Air motive power and driving mechanism. (62.1; 65.3)	Smith	P. 6060
69.6	Centrifugal fans for air treatment. (67.2; 90.9)	Paley	P. 6086

Group 70.—Casting and Stamping.

(No entries.)

Group 71.—Forging, Rolling, &c.

Class.	Title.	Name.	Number.
71.3	Making tubes. (71.4; 74.1)	Beck	6079
71.6	Hammer drills. (72.1; 85.8)	Johnson	6213

Group 72.—Turning; Milling; Fitting.

Class.	Title.	Name.	Number.
72.1	Adjustable nut wrench or shifting spanner	Anderson	P. 6053
72.1	Cutting pipes. (74.6)	Clarke	P. 6097
72.1	Pipe vice. (74.6)	Clarke	P. 6098
72.1	Hammer drills. (71.6; 85.8)	Johnson	6213
72.1	Ratchet wrenches. (78.3)	Stevenson	6256

Group 73.—Sheet Metal Work.

Class.	Title.	Name.	Number.
73.2	Reciprocal movement. (53.9; 93.3; 94.3)	Gilbert	6076
73.2	Metal tubular articles. (74.1; 89.9)	Lee	6220

Group 74.—Pipes and Fittings.

Class.	Title.	Name.	Number.
74.1	Making tubes. (71.3; 71.4)	Beck	6079
74.1	Metal tubular articles. (73.2; 89.9)	Lee	6220
74.5	Flexible pipe joints. (96.6)	Greenlaw	6227
74.6	Cutting pipes. (72.1)	Clarke	P. 6097
74.6	Pipe vice. (72.1)	Clarke	P. 6098
74.6	Removing boiler tubes	Lusk	P. 6100
74.6	Metal-tube bending machine	Ward	6135
74.7	Valves of cocks and taps	Whitehouse	C.a.P. 4229
74.7	Screw-down hydrant	Hoskins	6105
74.7	Pumps and valves. (68.3)	Thompson	6151
74.7	Safety valve. (21.6; 88.2)	Jenczewsky	6195
74.7	Electrically-operated safety valve. (21.6; 88.2)	Jenczewsky	6196
74.8	Self-grip and draw-off attachment for vessels. (*Sec. 7.*) (22.4)	Saunders	6175
74.9	Attachment on rock drills. (85.9)	Allingham	C.a.P. 4429
74.9	Sediment from vessels containing liquid	Levy	6088
74.9	Effluent pipe for septic tanks. (86.7)	Armstrong	P. 6280

Group 75.—Abrading and Polishing.

Class.	Title.	Name.	Number.
75.2	Knife cleaner and sharpener. (76.8)	Whelan	C.a.P. 4062
75.2	Knife cleaning device. (76.1)	Paley	P. 6293

Group 76.—Cutlery.

Class.	Title.	Name.	Number.
76.1	Knife cleaning device. (75.2)	Paley	P. 6293
76.3	Attachment for serviettes, dusters, &c. (43.9)	Moore	P. 6298
76.8	Knife cleaner and sharpener. (75.2)	Whelan	C.a.P. 4062
76.8	Adjustable meat stand. (24.7)	Hastwell	P. 6197
76.8	Vegetable chopper, &c. (10.7 ; 34.7)	McKay	P. 6198

Group 77.—Locks, Bolts, Safes, &c.

Class.	Title.	Name.	Number.
77.1	Unlocking doors of railway carriages, &c. (96.2)	Lawson	C.a.P. 3913

Group 78.—Structural Hardware.

Class.	Title.	Name.	Number.
78.1	Machines for inserting fasteners in boots, &c. (44.5)	Davey	C.a.P. 4246
78.2	Connecting hook	Wilson	P. 6152
78.3	Ratchet wrenches. (72.1)	Stevenson	6256
78.4	Differential thread locking nut for bolts, &c.	Train	P. 6049
78.4	Lock nut and bolt	Allen	P. 6276
78.5	Hinge for boxes, cases, &c. (57.2)	Remfry	6172
78.7	Sash adjuster	Lake	P. 6250
78.7	Window and door anti-vibrator. (78.8)	Madden	P. 6291
78.8	Safety arrangement for hydraulic lifts. (59.2)	Cox	C.a.P. 3995
78.8	Shutting and locking doors of railway carriages. (96.2 ; 98.8) ...	Westcott	P. 6272
78.8	Window and door anti-vibrator. (78.7)	Madden	P. 6291

Group 79.—Paints, Adhesives, &c.

Class.	Title.	Name.	Number.
79.2	White lead and zinc white from sulphides	Blue	P. 6282
79.3	Branding tool. (37.4)	Young	6244

Group 80.—Carpentry.

Class.	Title.	Name.	Number.
80.5	Saw benches	Mills	6266
80.5	Portable hand-band saw-bench	Lacey	P. 6267
80.7	Boring mechanism. (81.8)	Gerson	P. 6224

Group 81.—Buildings, Streets, Fencing.

Class.	Title.	Name.	Number.
81.3	Folding scaffold bracket	Atkins	P. 6301
81.5	Safety appliances for lift doorways. (59.2)	Pearce	C.a.P. 4092
81.6	Wall ventilator. (90.9)	Apted	P. 6180
81.8	Post-hole digger. (85.7)	Ferris	C.a.P. 4169
81.8	Clip for retaining fencing wire. (58.3)	Larkin	6055
81.8	Wire strainers. (58.3)	Moore	6056
81.8	Droppers and supports for fences	Hobbs	P. 6095
81.8	Standards for fences	Parsons	P. 6096
81.8	Detachable fence standard	Williamson	P. 6099
81.8	Attaching fencing wires to iron standards	Lakin	6101
81.8	Wire-fence dropper	Coull	P. 6140
81.8	Dropper and means of securing to fence wires	Whitcombe	P. 6171
81.8	Boring mechanism. (80.7)	Gerson	P. 6224

Group 82.—Harbours, Foundations.

Class.	Title.	Name.	Number.
82.1	Light buoys, &c. (88.7 ; 99.6)	Dalen	6169
82.4	Wave motor	Ferrier	P. 6087
82.4	Storage of electrically transmitted energy. (62.5)	Fox	6248

Group 83.—Waterworks.

Class.	Title.	Name.	Number.
83.7	Siphon for filtering or discharging liquids	Oakley	P. 6108

Group 84.—Excavation and Dredging.

84.1	Picks. (85.8)	Lucas	6212
84.3	Silt scoops and dredges	Statton	6048
84.3	Excavator	Howitt	P. 6125
84.3	Hand-hauling dredge	Whincop	P. 6295

Group 85.—Mining.

85.7	Post-hole digger. (81.8)	Ferris	C.a.P. 4169
85.8	Water supply to rock drills. (85.9)	Weston	C.a.P. 4193
85.8	Rock drills	Guthridge	6145
85.8	Picks. (84.1)	Lucas	6212
85.8	Hammer drills. (71.6; 72.1)	Johnson	6213
85.9	Air purifier for rock drills. (74.9)	Allingham	C.a.P. 4429

Group 86.—Sanitation.

86.2	Disinfectant measurer to flushing cisterns. (56.5)	Jarvis	6217
86.3	Fastening for lids of sanitary pans	Moyle	C.a.P. 4286
86.5	Street sweeping apparatus. (*Sec. 85.*)	Kirkbride	P. 6181
86.5	Hand sweeper for street cleaning	Penfold	P. 6247
86.7	Effluent pipe for septic tanks. (74.9)	Armstrong	P. 6280

Group 87.—Medicine.

87.1	Diarrhœa cure	Walters	6117
87.2	Suppository device for therapeutic purposes	Hehir	P. 6113
87.3	Shoulder straps and hose suspenders. (43.3; 43.9)	Ralph	P. 6182
87.8	Metallic hoot insole. (44.3)	Leckie	P. 6254
87.8	Electrical therapeutic appliance. (04.1)	Dowling	6284

Group 88.—Salvage, Accidents.

88.1	Forced draft for fire-engines, &c. (16.8; 63.7)	Sutcliffe	P. 6201
88.2	Chemical fire extinguisher	Wilkins	P. 6134
88.2	Safety valve. (21.6; 74.7)	Jenczewsky	6195
88.2	Electrically operated safety valve. (21.6; 74.7)	Jenczewsky	6196
88.7	Light buoys, &c. (82.1; 99.6)	Dalen	6169
88.7	Tools for diving vessels. (91.6)	Veron	P. 6242
88.7	Raising sunken vessels	Veron	P. 6243

Group 89.—War.

89.5	Targets for rifle shooting	Thomas	C.a.P. 4225
89.5	Game targetto. (53.1)	Temple	P. 6132
89.6	Revolving torpedo tube cap. (91.6)	Grieshaber	6260
89.6	Torpedo expulsion valve. (91.6)	Frauenfelder	6262
89.8	Oxygen from oxygenated salts. (08.6; 20.4)	Jaubert	6146
89.8	Oxygen briquettes. (08.6; 20.4)	Jaubert	6147
89.8	Explosives	Bloxam	P. 6157
89.9	Metal tubular articles. (73.2; 74.1)	Lee	6220

Group 90.—Wind and Flying Machines.

Class.	Title.	Name.	Number.
90.3	Disposition of screw propellers. (91.2; 92.6)	Pertot	P. 6160
90.7	Windmill	Jennings	C.a.P. 3953
90.9	Centrifugal fans for air treatment. (67.2; 69.6)	Paley	P. 6086
90.9	Wall ventilator. (81.6)	Apted	P. 6180

Group 91.—Ship Building.

91.2	Disposition of screw propellers. (90.3; 92.6)	Pertot	P. 6160
91.6	Aquatic roundabout. (53.5)	Sutherland	C.a.P. 4851
91.6	Tools for diving vessels. (88.7)	Veron	P. 6242
91.6	Safety depth regulating valves for submarines	Spear	6258
91.6	Water ballast tanks for submarines, &c.	Spear	6259
91.6	Revolving torpedo tube cap. (89.6)	Grieshaber	6260
91.6	Equilibruim of diving submarines	Bailey	6261
91.6	Torpedo expulsion valve. (89.6)	Frauenfelder	6262
91.8	Unloading coal from ships. (59.5)	Jörgensen	P. 6130

Group 92.—Marine Propulsion.

92.6	Disposition of screw propellers. (90.3; 91.2)	Pertot	P. 6160

Group 93.—Road Vehicles.

93.1	Elevator for loading wheat into waggons, &c. (59.1; 59.9)	White	6092
93.2	Seats for road vehicles, &c. (93.3)	Smith	C.a.P. 4080
93.2	Portable folding car	Farr	P. 6245
93.3	Reciprocal movement. (53.9; 73.2; 94.3)	Gilbert	6076
93.9	Enabling vehicle drivers to obtain a rear view. (00.4; 95.9)	Raven	P. 6297

Group 94.—Cycles.

94.1	Bicycle seat spring supports. (94.3)	Brown	P. 6081
94.1	Pneumatic seat supports for cycles, &c. (94.3)	Dietz	6252
94.3	Reciprocal movement. (53.9; 73.2; 93.3)	Gilbert	6076
94.5	Toe clips for cycles. (*Sec.* 85.)	Killworth	6178
94.9	Spring adjustable mudguard	Robilliard	C.a.P. 4185

Group 95.—Locomobiles.

95.2	Self-propelled vehicles. (02.3; 67.1; 95.4)	Krieger	6287
95.4	Locomotives. (63.8)	Reid	6155
95.7	Automobile trains. (60.2; 62.8; 95.9)	De Luigi	6162
95.8	Suspending gear of motor-vehicles	Krieger	6288
95.9	Grooved belt pulley for motor-cycles, &c. (62.7)	Laird	P. 6174
95.9	Enabling vehicle drivers to obtain a rear view. (00.4; 93.9)	Raven	P. 6297

Group 96.—Rolling Stock.

96.2	Unlocking doors of railway carriages, &c. (77.1)	Lawson	C.a.P. 3913
96.2	Shutting and locking doors of railway carriages. (78.8; 98.8)	Westcott	P. 6272
96.3	Safety coupling for railway vehicles	Balaam	P. 6202
96.6	Flexible pipe joints. (74.5)	Greenlaw	6227
96.6	Automatic vacuum brake apparatus	Morden	6279

Group 97.—Wheels.

Class.	Title.	Name.	Number.
97.2	Plug tire tightener	Gill	6082
97.4	Wheels for rolling and mechanical purposes. (97.6)	Janssens	6078
97.4	Spring wheel for motor-cars, cycles, &c. (97.6)	Carroll	P. 6103
97.4	Wheels for cycles, motor-cars, &c. (97.6 ; 97.8)	Moore	6156
97.4	Vehicle wheel. (97.6)	Hampé	P. 6302
97.6	Wheels and vehicles. (97.8)	Pounds	C.a.P. 5550
97.6	Bearings for axles of wheels, &c.	Muir	6052
97.6	Vehicle wheels	de Hora	6064
97.8	Pneumatic tires	Magennis	6058
97.8	Valves for pneumatic tires	Neunhoffer	P. 6077
97.8	Sectional wheel tires	Fortescue	P. 6102
97.8	Automatically inflating pneumatic tires	Connell	6111
97.8	Cycle tube or bladder	Paterson	P. 6170
97.8	Resilient tire for wheels. (47.5)	Roland	6206
97.8	Metal cycle pump connexion	Ziegler	P. 6290
97.8	Pneumatic tire pump connexion	Sadler	P. 6305

Group 98.—Permanent Way.

98.1	Interlocking fish-plate	Nelligan	P. 6176
98.3	Weed prevention on permanent way. (18.7 ; 31.5)	Harwood	C.a.P. 4021
98.8	Shutting and locking doors of railway carriages. (78.8 ; 96.2)	Westcott	P. 6272

Group 99.—Signalling.

99.2	Electrical conduction. (03.0 ; 03.1)	Buckeridge	6112
99.6	Light buoys, &c. (82.1 ; 88.7)	Dalen	6169

ALPHABETICAL SUBJECT INDEX TO ACCEPTED SPECIFICATIONS.

JUNE, 1906.

This Index includes all specifications which have been accepted and advertised during this month as being open to public inspection under Section 50 and Regulation 17.

The subject entries have been prepared from the titles, supplemented by further headings and qualifying descriptions taken from the specifications.

Copies of the specifications may be inspected at the Patent Office, Melbourne, and at the Customs Offices in Sydney, Brisbane, Adelaide, Perth, and Hobart, on payment of the search fee of One Shilling in each case; typed copies will be supplied from the Patent Office, Melbourne, at the rate of Sixpence for each 100 words, and sun prints at One Shilling for each foolscap folio of drawings.

Any person interested in opposing the grant of a Patent on any one of the Applications in this Index may, within three months from the date of the *Journal* containing the notice of acceptance, give notice at the Patent Office, Melbourne, in Form G, which must be accompanied by the fee of £2.

Subject.	Name.	Number.
ABDOMINAL belt for sea sickness...	Knight	4741
Abdominal busk for corsets ...	King	4039
Advertising devices and signs, Mechanical	Pearce	3950
Aerating machine for liquids	Elworthy	5155
Agricultural implements, Adjustable plough frame and discs	Barger	3772
Agricultural implements, Draught and steering gear for stripper harvesters	McKay	3537
Agricultural implements, Reversible disc plough ...	Barger	3771
Agricultural implements, Scarifier	Hall	4436
Air compressor, blower, or pump	Jones	3595
Alarm, Electric fire	Taylor	3655
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Attemperator for beer and other lijuids	Phillips	4362
Automobile, Compressed air for tires, brakes, cooling, &c.	Nielsen	5532
Automobiles, Bodies and seats of	Grummett	3393
Automobiles, Pneumatic tire for	Doolittle	3064
Automobile tires, Pneumatic ...	Killen	4963

Subject.	Name.	Number.
BAGS, Hand-truck, with grab hook for	Campbell	3737
Bakers' dough making machine	Callow	4656
Bales, Hand-truck, with grab hook for	Campbell	3737

Subject.	Name.	Number.
Barbed wire-making machines, Weighing wire for delivery to ...	Gold ...	3676
Base for mounting electrotype, stereotype, or other printing surfaces, Metal	Oldfield ...	4581
Bath heaters, Combined water and gas cock for	Fischer ...	5410
Battery, Lifting and downward impulse for stamper	Bonnard ...	5197
Beaters for eggs with sucker foot, Centrifugal flexible	Godward ...	5574
Beer and other liquids, Apparatus or cooling draught	Phillips ...	4362
Bell, Fire alarm and push for electric	Taylor ...	3655
Belt concentrator, Travelling endless	Moore ...	5535
Belt conveyers, Guiding device for	Peterson ...	5286
Belt for preventing sea sickness, Abdominal	Knight ...	4741
Bending horseshoes, Machine for	Haight ...	5475
Beverages, Aerating machine for	Elworthy ...	5155
Bicycle, Flexible non-inflated tires for	Schmidt ...	3426
Bicycle, Spring front fork attachment	Waller ...	5184
Billiard table	Alcock ...	4881
Bit, Tunnelling machine	Karns ...	5555
Blast furnace for smelting sulphide ores	Heskett ...	5413
Bleaching flour and grain, Apparatus for producing gas for ...	Werner ...	4662
Bleaching flour by oxides of nitrogen	Werner ...	5240
Blower or pump	Jones ...	3595
Boats, Closed cycle oil engines for submarine	Baubert ...	4117
Boats, Reducing skin friction by films of air	Del Lungo ...	4924
Boiler, Smoke consuming fire bridge for marine	Johnson ...	4754
Boilers, Perforated fire bridge for consuming smoke	Johnson ...	3378
Boiler tubes from hollow blooms or shells, Manufacture of ...	Cotton ...	4382
Boiler, Water tube	Cowan ...	4544
Boiler, Water tube	Cowan ...	4665
Boots and shoes, Partly buttoned and partly elastic upper ...	Welch ...	4244
Boots, shoes, and the like, Clip fastening for	Faulkner ...	5083
Boring rock, Tunnelling machine for	Karns ...	5555
Bottles, jars, and the like, Capsule for	Nee ...	5529
Bottles, Stopper for jars and	Lalau ...	3822
Boxes, Manufacture of collapsible paper or cardboard	Comings ...	5042
Boxes, Spacing blocks for packing tins in	Goddard ...	5648
Box, Horses' feed	Easton ...	4950
Braiding machine, Bobbin raceways for	Tilmanns ...	5338
Bread, Dough moulding machine for making	Callow ...	4656
Bucket for shaft sinking, Safety device for	Pickles ...	5309
Buildings, Metallic coverings for roofs and walls, and	Taylor ...	5306
Burner and atomizer, Liquid fuel	Anderson ...	4301
Burner and atomizer, Liquid fuel	Cotton ...	4382
Burner for carbonaceous liquids	Cotton ...	3896
Burrows, Exploder for detecting the escape of fumes from rabbit ...	Hillman ...	4316
Busks for corsets, Abdominal	King ...	4039
Butter cutter	Preston ...	3667
Buttoned and elastic uppers for boots and shoes	Welch ...	4244
CAGE for shaft sinking, Safety device for	Pickles ...	5309
Cams, Lifting and downward impulse for stamper batteries ...	Bonnard ...	5197
Can, and dies for making it, Food	Griffiths ...	3936
Capsule for bottles, jars, and the like	Nee ...	5529
Carbonaceous liquids, Burner for	Cotton ...	3896
Cardboard or paper boxes, Manufacture of collapsible	Comings ...	5042
Carriers, Guiding device for belt	Peterson ...	5286
Cars, Power transmitting device for	Deutsch ...	4735

Subject.	Name.	Number.
Cars, Shunting hand-operated worm gear for	Vining	5537
Cart, Steering wheels for hand	Lachat	3255
Casement fastener, Rack arm and clamping screw	Tonks	5305
Cases, Hand truck with grab hook for	Campbell	3737
Cases, Spacing blocks for packing cans in	Goddard	5648
Cash registers, money tills, and the like, Electrically releasing drawers of	Jackson	5573
Casings for water tube boilers	Cowan	4665
Catalytic tube, Electrically heated	Werner	5240
Cattle, Feed box for	Easton	4950
Cellulose from maize, Manufacture of	Stewart	5308
Centrifugal oil mixer	Brandt	4954
Centrifugal separators, Distributing device and liners for	Bök	3602
Centrifugal separators, Distributing devices for	Bök	3607
Centrifugal separators, Milk supply tube for	Bergner	5342
Cereals, Apparatus for producing gas for bleaching	Werner	4662
Channel-forming plough	Kirby	4201
Chart, Metal adjustable dressmaking	McDowell	5350
Chemical process of separating metallic sulphides, Skimming vat for	Gillies	3633
Chloride of tin to dissolve tin from tinned iron	Jolly	5116
Cigar tip perforator	Fox	4742
Clamps for making picture frames	Dunne	3733
Clarifying sugar	Stewart	5308
Classifying alluvial material, Puddler for	Bennetts	4894
Classifying machines, Adjustable collector for removing slimes from	Hancock	5449
Cleansing gases of dust, Silicon monoxide coated screen for	Potter	5438
Clerical, Writing pad and envelope case combined	Clarke	5029
Clip for fastening boots, shoes, and the like	Faulkner	5083
Clippers,fork and tension device	Cowell	3275
Closets, Disinfecting and deodorizing earth	O'Brien	5508
Coin-throwing game	Bock	5325
Collapsible paper or cardboard boxes, Manufacture of	Comings	5042
Composition, Flavouring essence	Gilfillan	5341
Compressor and pump, Turbo	Parsons	5163
Compressor, blower, or pump air	Jones	3595
Concentrating ores, Oil flotation process and apparatus for	Sulman	5031
Concentrating ores, Oil flotation process and apparatus for	Sulman	5032
Concentrating ores, Oil flotation process for	Sulman	4667
Concentrating troughs, Vibrating, amalgamating, and	Davies	5102
Concentrators, Collector for removing slimes from jigs or	Hancock	5449
Concentrator, Travelling belt	Moore	5535
Concrete piles formed in holes sunk in the ground	Monnier-Ducastel	5143
Condensers, Ejectors for marine and turbine	Parsons	5126
Conveyer, Guiding device for belt	Peterson	5286
Cooking apparatus, Steam	Wolters	3271
Cooking utensils, Centrifugal flexible egg whisk with	Godward	5574
Cooler for liquids, Film	Mayne	5072
Cooling and heating coils for beer pumps	Phillips	4362
Cord-weaving machine, Bobbin raceways for	Tillmanns	5338
Corsets, Abdominal busk for	King	4039
Covers for jars, bottles, &c.	Lalau	3822
Covers for pneumatic tires	Marshall	4915
Covers for roofs and walls, Metallic	Taylor	5306
Cream and milk cooler, Film	Mayne	5072
Cream separators, Distributing devices for centrifugal	Bök	3607
Cream separators, Milk supply tube for	Bergner	5342
Crushing stamps, Cam for	Bonnard	5197
Culinary flavouring essences, Manufacture of	Gilfillan	5341

Subject.	Name.	Number.
Cultivator	Hall	4436
Current collectors for electric tramways	Holmes	5420
Cutting bulk butter, Machine for	Preston	3667
Cutting rock, Tunnelling machine for	Karns	5555
Cycles, Flexible non-inflated tires for	Schmidt	3426
Cycle, Spring front fork attachment	Waller	5184

DEODORIZING and disinfecting earth closets	O'Brien	5508
Desiccated milk food	Hatmaker	4427
Destructive fumes from rabbit burrows, Exploder for detecting the escape of	Hillman	4316
Destructor, Garbage	Bowring	5254
Detonating tube for rabbit burrows	Hillman	4316
Dies for making food can	Griffiths	3936
Dioxide from the monoxide, Manufacture of silicon	Potter	5436
Disc plough, Reversible	Barger	3771
Discs and plough frame, Adjustable	Barger	3772
Disinfecting and deodorizing earth closets	O'Brien	5508
Distributing device and liners for centrifugal separators	Bök	3602
Distributing devices for centrifugal separators	Bök	3607
Ditch-forming plough	Kirby	4201
Dividing bulk butter, Machine for	Preston	3667
Domestic washing, Combined tub and washer	Pearce	5594
Doors, windows, and the like, Anti-rattling device for sliding	Stevenson	3311
Dough moulding and shaping machine	Callow	4656
Drafting chart, Metal adjustable skirt	McDowell	5350
Drain-forming plough	Kirby	4201
Draught beer, Apparatus for cooling	Phillips	4362
Drawing protractor with index finger and ruler	Beere	5442
Dressmaking chart, Metal adjustable	McDowell	5350
Drill, Tunnelling machine rock	Karns	5555
Drinking glasses, Machine for washing	Cameron	3360
Dust from gases, Silicon monoxide coated screen for removing	Potter	5438
Dust in streets, Watering cart for supplying oil to lay	Brandt	4954

EARTH closets, Disinfecting and deodorizing	O'Brien	5508
Egg-beaters, with sucker foot, Centrifugal flexible	Godward	5574
Ejectors for marine and turbine condensers	Parsons	5126
Elastic and buttoned uppers for boots and shoes	Welch	4244
Electrically releasing of drawers of cash registers, money tills, and the like	Jackson	5573
Electric fire alarm and bell push	Taylor	3655
Electric tramways, Trolley heads for	Holmes	5420
Electrotype, stereotype, or other printing surfaces, Metal base for mounting	Oldfield	4581
Endless belt or concentrator, Travelling	Moore	5535
Engine, Rotary explosion	Appel	5302
Engines, Closed cycle oil for submarine boats	Jaubert	4117
Engines, Packing glands of turbines and other rotary	Parsons	5343
Envelope case and writing pad combined	Clarke	5029
Envelope sealing machine	Fancher	5316
Escape, Fire	Hulbert	3872

Subject.	Name.	Number.
Essences, Manufacture of culinary flavouring	Gilfillan ...	5341
Excavating plough for drain forming	Kirby ...	4201
Exploder for detecting the escape of fumes from rabbit burrows ...	Hillmann ...	4316
Explosion engine, Rotary	Appel ...	5302
Extensible escape ladders	Hulbert ...	3872
Extracting tin from tinned iron, Process for	Jolly ...	5116
Eye-glasses and spectacle bi-focal lenses, Machine for making ...	Bentzon ...	5598

FASTENER for casement window, Rack arm and clamping screw	Tonks ...	5305
Fastening boots, shoes, and the like, Clip	Faulkner ...	5083
Fastening for lids of sanitary pans	Cox ...	3908
Fastening latch for gate with hole for padlock, Automatic encased...	Watson ...	3804
Fastening metal tires	Mudge ...	4026
Fastenings, Anti-rattling device for windows, sliding doors, and the like	Stevenson ...	3311
Fastenings for metallic roofs and walls	Taylor ...	5306
Feed box, Horses'	Easton ...	4950
Fermented whey for tanning purposes	Nowak ...	5439
Filter, Circular revolving vacuum slimes	Weekley ...	5290
Filtering dust from gases, Silicon monoxide coated screen for ...	Potter ...	5438
Filter, Vacuum	Butters ...	5152
Fire alarm, Electric	Taylor ...	3655
Fire bars and travelling grate	Bowring ...	5254
Fire bridge for consuming smoke in marine boiler	Johnson ...	4754
Fire bridge for furnaces, Smoke consuming	Johnson ...	3378
Fire escape and ordinary ladders	Hulbert ...	3872
Flavouring essences, Manufacture of culinary	Gilfillan ...	5341
Flotation process and apparatus, Concentrating ores by oil ...	Sulman ...	5031
Flotation process and apparatus, Concentrating ores by oil ...	Sulman ...	5032
Flotation process for concentrating ores	Sulman ...	4667
Flotation process of separating metallic sulphides, Skimming vat for	Gillies ...	3633
Flour, Apparatus for producing gas for bleaching	Werner ...	4662
Flour by oxides of nitrogen, Bleaching	Werner ...	5240
Fly screen for windows	Sibbit ...	3825
Food can and dies for making it	Griffiths ...	3936
Foods, Steam cooking apparatus for preserving vegetable ...	Wolters ...	3271
Forges, Air blower for	Jones ...	3595
Fork and tension device for sheep shears	Cowell ...	3275
Fork for cycle front wheel, Spring attachment	Waller ...	5184
Foundations, Consolidating ground with concrete piles	Monnier-Ducastel	5143
Frames, Clamps for making picture	Dunne ...	3733
Fruit, Apparatus for preserving	Wolters ...	3271
Fuel atomizer and burner, Liquid	Anderson ...	4301
Fuel atomizer and burner, Liquid	Cotton ...	4382
Fuel, Burner for liquid	Cotton ...	3896
Fuel economizing perforated fire bridge for boilers	Johnson ...	3378
Fumes from rabbit burrows, Exploder for detecting the escape of ...	Hillman ...	4316
Furnace and process for obtaining metals from their sulphides ...	Heskett ...	5413
Furnace, Circular revolving roasting	Holthoff ...	3487
Furnace for destroying garbage	Bowring ...	5254
Furnace for smelting zinciferous ores	Armstrong ...	4407
Furnaces, Liquid fuel burner and atomizer for	Cotton ...	4382
Furnaces, Liquid fuel burner for	Anderson ...	4301
Furnaces, Smoke consuming fire bridge for	Johnson ...	3378

Subject.	Name.	Number.
GAME, Coin-throwing	Bock	5325
Game, Revolving maze	Lowe	4235
Garbage destructor	Bowring	5254
Gas and water cock for bath heaters, Combined	Fischer	5410
Gas engine, Rotary	Appel	5302
Gases, Silicon monoxide coated screen for removing dust from	Potter	5438
Gate latch, with hole for padlock, Automatic encased	Watson	3804
Gears, Power transmission from axles	Deutsch	4735
Glasses, Machine for washing drinking	Cameron	3360
Glass, Waggon for carrying plate	Hubbard	4618
Gold alluvial, Sluice box for washing	Ellis	3967
Gold, Belt concentrator for	Moore	5535
Gold saving riffle table	Trinder	3359
Grain, Apparatus for producing gas for bleaching	Werner	4662
Grate, Fire bars and travelling	Bowring	5254
Green pea-sheller	Cuthbert	4746
Guide rollers for belt conveyers	Peterson	5286
HAND truck or cart, Steering wheels for	Lachat	3255
Hand truck, with grab hook for bags	Campbell	3737
Harvesters, Draught and steering gear for stripper	McKay	3537
Heating and cooling coils for beer pumps	Phillips	4362
Hides and skins, Fermented liquor from sour milk for tanning	Nowak	5439
Hinge, detachable, for sliding and swinging sash	Parker	5355
Horses, Feed box for	Easton	4950
Horseshoe bending machine	Haight	5475
Horseshoes, Press for finishing	Haight	5635
Hydraulic jack, Portable	Russell	3641
INFANTS, Milk food for	Hatmaker	4427
Insect excluding screens for windows	Sibbit	3825
Instruments, Protractor with index finger and ruler	Beere	5442
Internal combustion engine, Rotary	Appel	5302
Iron, Process of recovering tin from tinned	Jolly	5116
JACK, Portable hydraulic	Russell	3651
Jars, bottles, and the like, Capsule for	Nee	5529
Jars, Stoppers for bottles and	Lalau	3822
Jigging machines, Adjustable collector for removing slimes from	Hancock	5449
KNEADING dough, Machine for	Callow	4656
LADDERS, Fire escape and ordinary	Hulbert	3872
Latch for gate, with hole for padlock, Automatic encased	Watson	3804
Leaching process to recover tin from tinned iron	Jolly	5116
Leather, Fermented liquor from sour milk for tanning	Nowak	5439
Lenses, Machine for making spectacle and eye-glasses bi-focal	Bentzon	5598

Subject.	Name.	Number.
Lids of sanitary pans, Fastening for ...	Cox	3908
Life-saving line for ship wrecks	Dalton	5318
Liners and distributing device for centrifugal separators ...	Bök	3602
Linotype machine	Holbourns	5245
Linotype machines, Removing magazine from ...	Homans	5164
Liquid cooler, Film	Mayne	5072
Liquid fuel atomizer and burner	Anderson	4301
Liquid fuel atomizer and burner	Cotton	4382
Liquid fuel burner	Cotton	3896
Liquids, Aerating machine for	Elworthy	5155
Liquids, Apparatus for cooling draught beer and other ...	Phillips	4362
Liquid separators, Distributing devices for centrifugal ...	Bök	3607
Lubricant, Mixture of silicon monoxide and mineral oil ...	Potter	5437
MAGAZINE, Removing linotype	Homans	5164
Magnesium sulphate for clarifying sugar	Stewart	5308
Maize, Manufacture of sugar and cellulose from	Stewart	5308
Manger, Horses	Easton	4950
Marine condensers, Ejectors for	Parsons	5126
Maze, Revolving	Lowe	4235
Metal base for mounting electrotype, stereotype, or other printing surfaces	Oldfield	4581
Metallic coverings for roofs, walls, and buildings	Taylor	5306
Metalliferous minerals, Separation of ...	Sulman	5031
Metals from their sulphides, Furnace and process for obtaining	Heskett	5413
Meter, Wireless telegraphic receiver connexions and wave ...	von Arco	3999
Milk and cream cooler, Film ...	Mayne	5072
Milk food, Desiccated	Hatmaker	4427
Milk for tanning purposes, Fermented liquor from sour ...	Nowak	5439
Milk supply tube for cream separators ...	Bergner	5342
Mineral oils, Silicon monoxide powder for thickening	Potter	5437
Mineral saving riffle table ...	Trinder	3359
Minerals, Separation of metalliferous ...	Sulman	5031
Mines, Ventilation of	Uren	5390
Mining machine, Tunnelling or	Karns	5555
Mining shaft sinking, Safety device for bucket ...	Pickles	5309
Mining skip for inclined shafts, Safety gear for ...	Bell	3663
Mitering picture frames, Clamps for ...	Dunne	3733
Money tills, cash registers, and the like, Electrically releasing drawers of	Jackson	5573
Monoxide, Manufacture of silicon dioxide from the	Potter	5436
Motor car, Air compressor for tires, brakes, cooling, &c. ...	Nielsen	5532
Motor car bodies and seats ...	Grummett	3393
Motor cars, Flexible non-inflated tires for	Schmidt	3426
Motor cars, Pneumatic tire for	Doolittle	3064
Motor car tires, Pneumatic ...	Killen	4963
Moulding and shaping dough, Machine for	Callow	4656
Mounting electrotype, stereotype, or other printing surfaces on metallic base	Oldfield	4581
Musical instruments, Tracker board for	Ball	4734
NAIL-MAKING machine	Price	3297
Navigable vessels, Longitudinal corrugations in sides of ...	Petersen	3886
Nitrogen, Bleaching flour by oxides of ...	Werner.	5240

Subject.	Name.	Number.
OIL engine, Rotary	Appel	5302
Oil engines, Closed cycle for submarine boats	Jaubert	4117
Oil flotation process and apparatus for concentrating ores	Sulman	5031
Oil flotation process and apparatus for concentrating ores	Sulman	5032
Oil flotation process for concentrating ores	Sulman	4667
Oil fuel atomizer and burner	Cotton	4382
Oils, Silicon monoxide powder for thickening mineral	Potter	5437
Oil supplied from watering cart to lay dust in streets	Brandt	4954
Ore, Adjustable vat for skimming metallic sulphides separated by flotation	Gillies	3633
Ore, Cam for battery for crushing	Bonnard	5197
Ore concentrator, Travelling belt	Moore	5535
Ore filter for slimes, Vacuum	Weekley	5290
Ores, Adjustable collector for removing slimes from jigs	Hancock	5449
Ores, Circular revolving roasting furnace for	Holthoff	3487
Ores, Furnace and process for obtaining metals from their sulphides	Heskett	5413
Ores, Furnace for refining, roasting, and reducing refractory	Bowring	5254
Ores, Furnace for smelting zinciferous	Armstrong	4407
Ores, Gold saving rifle table for	Trinder	3359
Ores, sluice box for washing alluvial gold and tin	Ellis	3967
Ores, Oil flotation process and apparatus for separating	Sulman	5031
Ores, Oil flotation process and apparatus for separating	Sulman	5032
Ores, Oil flotation process for concentrating	Sulman	4667
Ores, Puddler for classifying	Bennetts	4894
Ores, Vacuum filter for slimes	Butters	5152
Ores, Vibrating troughs for amalgamating and concentrating	Davies	5102
PACKAGES, Hand-truck with grab hook for	Campbell	3737
Packing for pistons of air blowers	Jones	3595
Packing glands, Steam turbine	Parsons	5343
Packing tins in boxes, Spaced blocks for	Goddard	5648
Paper envelopes, Machine for sealing	Fancher	5316
Paper or cardboard boxes, Manufacture of collapsible	Comings	5042
Paper writing pad and envelope combined	Clarke	5029
Pattern chart, Metal adjustable	McDowell	5350
Pea sheller, Green	Cuthbert	4746
Perforated music rolls, Tracker board for	Ball	4734
Perforator for cigar tip	Fox	4742
Picture frames, Frames for making	Dunne	3733
Piles formed by sinking and filling holes with concrete	Monnier-Ducastel	5143
Piston packing for air blower	Jones	3595
Pits, Sinking and lining with clay or cement	Monnier-Ducastel	5143
Plate glass, Waggon for carrying	Hubbard	4618
Platform hand-truck, Steering wheels for	Lachat	3255
Plough for ditch-forming	Kirby	4201
Plough frame and discs, Adjustable	Barger	3772
Plough, Reversible disc	Barger	3771
Pneumatic pads for riding saddle	Hull	4799
Pneumatic tires for vehicles	Killen	4963
Pneumatic tire	Doolittle	3064
Pneumatic tire covers	Marshall	4915
Pneumatic tires inflated through axle by compressor	Nielsen	5532
Powdered silicon monoxide for lubrication	Potter	5437
Power transmitting devices	Deutsch	4735
Precious metals, Belt concentrator for	Moore	5535

Subject.	Name.	Number.
Preserving fruit and vegetables, Apparatus for	Wolters	3271
Press, Horseshoe finishing	Haight	5635
Preventing rabbits reaching stock water tanks, Means for	Hetherington	5656
Printer for butter	Preston	3667
Printing, Linotype machine	Holbourns	5245
Printing machines, Removing magazine from linotype	Homans	5164
Printing surfaces, Metal base for mounting electrotype, stereotype, or other	Oldfield	4581
Propulsion of submarines by closed cycle explosion engines	Jaubert	4117
Protractor, with index finger and ruler	Beere	5442
Pudler, with continuous feed and discharge	Bennetts	4894
Pump and compressor, Turbo	Parsons	5163
Pump or air blower	Jones	3595
Pump, Rotary	Luttrell	5205
RABBIT burrows, Exploder for detecting the escape of fumes from	Hillman	4316
Rabbits from reaching stock water tanks, Means for preventing	Hetherington	5656
Rabbit trap	Houston	3591
Railway cars, Shunting gear for	Vining	5537
Railways, Power transmitting device for	Deutsch	4735
Receiver connexions and wave meter for wireless telegraphy	von Arco	3999
Reducing refractory ores, Furnace for	Bowring	5254
Refining refractory ores, Furnace for	Bowring	5254
Refractory ores, Furnace for refining, roasting, and reducing	Bowring	5254
Refuse destructor	Bowring	5254
Registers, money tills, and the like, Electrically releasing drawers of cash	Jackson	5573
Retort furnaces for smelting zinciferous ores	Armstrong	4407
Revolving maze	Lowe	4235
Ridging for metallic roof coverings	Taylor	5306
Riding saddle with pneumatic pads	Hull	4799
Riffle table, Gold saving	Trinder	3359
Rifle sight, Wind-gauge for	Dunn	3366
Roads, Watering cart for supplying oil to lay dust in	Brandt	4954
Roasting, Circular revolving roasting	Holthoff	3487
Roasting furnace and garbage destructor	Bowring	5254
Rock drill, Tunnelling machine	Karns	5555
Rolling stock, Shunting, hand-operated worm gear for	Vining	5537
Rolls, Tracker board for perforated music	Ball	4734
Roofs and walls, Metallic coverings for	Taylor	5306
Rotary engine, Explosion	Appel	5302
Rotary engines, Packing glands for shafts of	Parsons	5343
Rotary pump	Luttrell	5205
SADDLE with pneumatic pads, Riding	Hull	4799
Safety device for bucket for shaft sinking	Pickles	5309
Safety gear for skip for inclined shafts	Bell	3663
Sanitary pans, fastening for lids of	Cox	3908
Sash, Detachable hinge for sliding and swinging	Parker	5355
Saving life, Line and shot for shipwrecks	Dalton	5318
Scarifier	Hall	4436
Screens for windows moving with sashes, Insect	Sibbit	3825
Sealing envelopes, Machine for	Fancher	5316
Sea sickness, Abdominal belt to prevent	Knight	4741

Subject.	Name.	Number.
Seats and bodies of motor cars	Grummett ...	3393
Separating ores, Oil flotation process and apparatus for	Sulman ...	5031
Separating ores, Oil flotation process and apparatus for	Sulman ...	5032
Separators, Distributing device for centrifugal	Bök ...	3602
Separators, Distributing devices for centrifugal	Bök ...	3607
Separators, Milk supply tube for cream	Bergner ...	5342
Settings for water tube boilers	Cowan ...	4665
Shaft sinking, Safety grip for bucket for use in	Pickles ...	5309
Shafts of steam turbines, Packing glands of	Parsons ...	5343
Shafts, Sinking and lining with clay or cement	Monnier-Ducastel	5143
Shaping and moulding dough, Machine for	Callow ...	4656
Shears, fork and tension device	Cowell ...	3275
Sheep shearing, fork and tension device	Cowell ...	3275
Sheller for green peas	Cuthbert ...	4746
Ships, Longitudinal corrugations in the sides of	Petersen ...	3886
Ships, Reducing skin friction by films of air	Del Lungo ...	4924
Shipwrecks, Life saving line and shot for	Dalton ...	5318
Shoe-bending machine, Horse	Haight ...	5475
Shoes and boots, uppers partly buttoned and partly elastic... ...	Welch ...	4244
Shoes, boots, and the like, Clip for fastening	Faulkner ...	5083
Shoes, Press for finishing horse	Haight ...	5635
Shunting cars, Hand operated worm gear for	Vining ...	5537
Sight, Wind-gauge for rifle	Dunn ...	3366
Signs and advertising devices, Mechanical	Pearce ...	3950
Silicon dioxide from the monoxide, Manufacture of	Potter ...	5436
Silicon monoxide coated screen for removing dust from gases ...	Potter ...	5438
Silicon monoxide powder for lubrication	Potter ...	5437
Skimming vat for metallic sulphides separated by flotation ...	Gillies ...	3633
Skins, Fermented liquor from sour milk for tanning	Nowak ...	5439
Skip for inclined shaft, Safety gear for	Bell ...	3663
Skip for shaft sinking, Safety device for	Pickles ...	5309
Skirt drafting chart, Metal adjustable	McDowell ...	5350
Slimes, Circular revolving vacuum filter for	Weekley ...	5290
Slimes, Vacuum filter for	Butters ...	5152
Sluice box for washing gold and tin alluvial	Ellis ...	3967
Smelting furnace for zinciferous ores	Armstrong ...	4407
Smoke consuming fire bridge for marine boiler	Johnson ...	4754
Smoke consuming perforated fire bridge for boilers	Johnson ...	3378
Smoking, Cigar tip perforator	Fox ...	4742
Sour milk for tanning purposes, Fermented liquor from	Nowak ...	5439
Spacing blocks for packing cans in cases	Goddard ...	5648
Spectacle and eyeglasses bi-focal lenses, Machine for making ...	Bentzon ...	5598
Stamper battery, Lifting and downward impulse cams for ...	Bonnard ...	5197
Stannic chloride to dissolve tin from tinned iron	Jolly ...	5116
Stationery, Writing pad and envelope case combined	Clarke ...	5029
Stays, Abdominal busk for	King ...	4039
Steam boiler furnaces, Liquid fuel atomizer anl burner for ...	Cotton ...	4382
Stean boilers, Perforated fire-bridge for consuming smoke ...	Johnson ...	3378
Steam boiler, Water tube	Cowan ...	4665
Steam cooker	Wolters ...	3271
Stearic acid for clarifying sugar	Stewart ...	5308
Steering wheels for hand cart or truck	Lachat ...	3255
Stereotype, electrotype or other printing surfaces, Metal base for mounting	Oldfield ...	4581
Stock water tanks, Means for preventing rabbits from reaching ...	Hetherington ...	5656
Stoppers for bottles and jars	Nee ...	5529
Stoppers for jars, bottles, &c.	Lalau ...	3822
Streets, Watering cart for supplying oil to lay dust in	Brandt ...	4954

Subject.	Name.	Number.
Stripper harvesters, Draught and steering gear for	McKay	3537
Submarine boats, Closed cycle oil engines for	Jaubert	4117
Sugar from maize, Manufacture of	Stewart	5308
Sulphides, Furnace and process for obtaining metals from their	Heskett	5413
Sulphides separated by flotation, Adjustable vat for skimming metallic	Gillies	3633
Swing, Rocking gear for	Starr	5554
TABLE, Billiard	Alcock	4881
Table, Gold saving riffle	Trinder	3359
Tablets, Culinary flavouring essences made in form of	Gilfillan	5341
Tanning hides and skins, Fermented liquor from sour milk for	Nowak	5439
Tap for bath heaters, Combined water and gas	Fischer	5410
Telegraphy, Receiver connexions and wave meter for wireless	von Arco	3999
Tension device for sheep shears	Cowell	3275
Textile fabrics, Bobbin race-ways for braiders	Tillmanns	5338
Thickening mineral oils, Silicon monoxide for	Potter	5437
Tin alluvial, Sluice box for washing	Ellis	3967
Tin from tinned iron, Process of recovering	Jolly	5116
Tins in boxes, Spaced blocks for packing	Goddard	5648
Tire, Pneumatic	Doolittle	3064
Tire, Sectional adjustable rubber	Hartridge	5344
Tires, Fastening metal	Mudge	4026
Tires, Flexible non-inflated	Schmidt	3426
Tires for wheels, Sectional and inwardly adjustable	Hartridge	5443
Tires inflated by compressor through axle	Nielsen	5532
Tires, making covers for	Marshall	4915
Tires, Pneumatic vehicle	Killen	4963
Tracker board for automatic musical instruments	Ball	4734
Tramways, Trolley heads for electrical	Holmes	5420
Transmitting power from axles	Deutsch	4735
Trap for rabbits	Houston	3591
Trolley, Steering wheels for hand	Lachat	3255
Trolley heads for electrical tramways	Holmes	5420
Troughs, Vibrating, concentrating, and amalgamating	Davies	5102
Truck for inclined shafts, Safety gear for	Bell	3663
Truck, Steering wheels for hand	Lachat	3255
Truck with grab hooks for bags, Hand	Campbell	3737
Trucks, Shunting, hand-operated worm gear for	Vining	5537
Tub and washer combined	Pearce	5594
Tube boiler, Water	Cowan	4544
Tube boiler, Water	Cowan	4665
Tunnelling machine	Karns	5555
Turbine condensers, Ejectors for	Parsons	5126
Turbines, Packing glands for shafts of steam	Parsons	5343
Turbo compressor and pump	Parsons	5163
Tyre, Pneumatic	Doolittle	3064
Tyre, Sectional adjustable rubber	Hartridge	5344
Tyres, Fastening metal	Mudge	4026
Tyres, Flexible non-inflated	Schmidt	3426
Tyres for wheels, Sectional and inwardly adjustable	Hartridge	5443
Tyres inflated by air compressor through axle	Nielsen	5532
Tyres, Making covers for	Marshall	4915
Tyres, Pneumatic vehicle	Killen	4963
UPPERS of boots and shoes partly buttoned and partly elastic	Welch	4244

Subject.	Name.	Number.
VACUUM filter	Butters	5152
Vacuum filter for slimes, Circular revolving	Weekley	5290
Vat for skimming metallic sulphides separated by flotation	Gillies	3633
Vegetables, Apparatus for preserving	Wolters	3271
Vehicle for carrying plate glass	Hubbard	4618
Vehicles, Flexible non-inflated tires for	Schmidt	3426
Vehicles, Pneumatic tire for	Doolittle	3064
Vehicles, Sectional and inwardly adjustable tires for wheels of	Hartridge	5443
Vehicle tires, Pneumatic	Killen	4963
Ventilation, Mines	Uren	5390
Vernier and ventometer rifle sight	Dunn	3366
Vessels, Longitudinal corrugations in the sides of	Petersen	3886
Vessels, reducing skin friction by films of air	Del Lungo	4924
WAGGON for carrying plate glass	Hubbard	4618
Waggons, Hand-operated worm gear for shunting	Vining	5537
Walls, Metallic coverings for roofs and	Taylor	5306
Warming coil for beer pumps	Phillips	4362
Washer and tub combined	Pearce	5594
Washing drinking glasses, Machine for	Cameron	3360
Washing gold and tin alluvial, Sluicing apparatus for	Ellis	3967
Water and gas cock for bath heaters, Combined	Fischer	5410
Watering cart for supplying oil to lay dust in streets	Brandt	4954
Water tube boiler	Cowan	4544
Water tube boiler	Cowan	4665
Wave meter and receiver connexions for wireless telegraphy	von Arco	3999
Wearing apparel chart, Metal adjustable	McDowell	5350
Weighing wire for delivery to barbed wire making machines	Gold	3676
Wells, Sinking and lining with clay or cement	Monnier-Ducastel	5143
Wet process of separating sulphides, Skimming vat for	Gillies	3633
Wheels, Sectional and inwardly adjustable tires for	Hartridge	5443
Wheels, steering for hand truck or cart	Lachat	3255
Wheel tires, Fastening metal	Mudge	4026
Wheel with sectional adjustable rubber tire	Hartridge	5344
Whey for tanning purposes, Fermented	Nowak	5439
Whisk for eggs with sucker foot, Centrifugal flexible	Godward	5574
Wind-gauge for rifle sight	Dunn	3366
Window casement fastener, Rack arm and clamping screw	Tonks	5305
Window, Detachable hinge for sliding and swinging sash	Parker	5355
Window insect screens moving with sashes	Sibbit	3825
Windows, sliding doors and the like, Anti-rattling device for	Stevenson	3311
Wire for barbed wire making machines, Weighing device for	Gold	3676
Wireless telegraphy, Receiver connexions and wave meter for	von Arco	3999
Wrecks, Life saving line and shot for	Dalton	5318
Writing pad and envelope case combined	Clarke	5029
ZINC, Furnace for smelting	Armstrong	4407
Zinc sulphides separated by flotation, Adjustable vat for skimming	Gillies	3633

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Acting Government Printer for the State of Victoria.

2256. 4 Jan. The Ingersoll-Sergeant Drill Co., 26 Cortlandt-street, New York, U.S.A., manufacturers (*assignees of* H. C. Sergeant, *act. inv.*, Westfield Union, New Jersey U.S.A., engineer).

Pneumatic hammer-drill motor for hand use, with dust blower or cooler, and oscillating ratchet motor.

Classes 65.3; 85.4; 85.9.

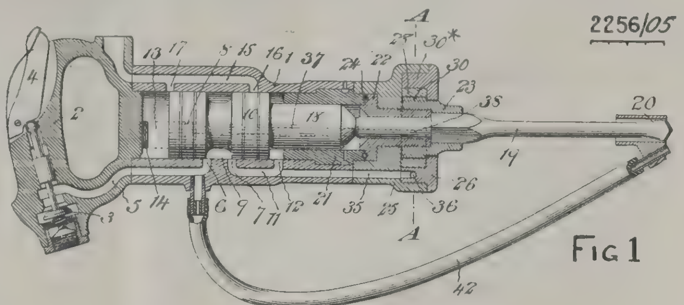


Fig 1

A hand supported pneumatic-motor with the usual handle **2** and thumb valve **3-4** is combined with a rock drill-bit **19** and a dust blower.

The drill **19** is held in a ratchet chuck **22** and **23** which is intermittently rotated by pawls hinged to a reciprocating piston on a loose collar **28,** forming an oscillating motor to which motive fluid is admitted by ports **35-36** leading from the main cylinder.

A branch pipe between the thumb valve and main cylinder has a constricted passage, and leads by a flexible connexion **42** to a jet (which cools the drill and removes dust) carried by a sleeve on the drill point **20.**

8 *typed pages*, 7 *claims*; 1 *fol. drg.*, 2 *figs.*

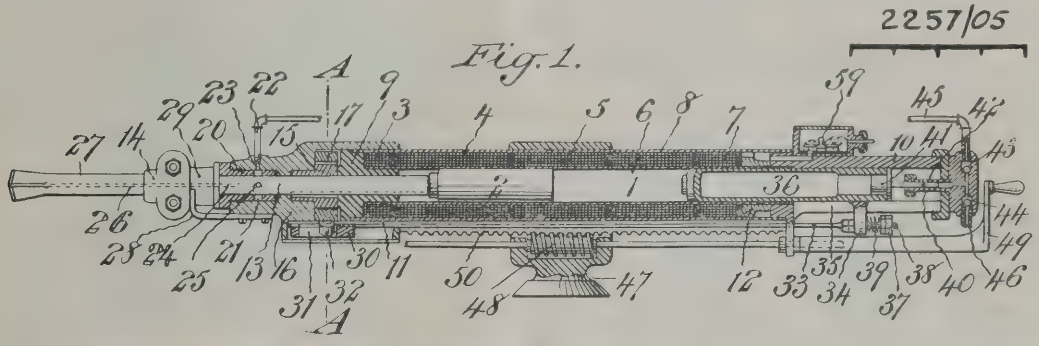
2257. 4 Jan. American Inventions Co., 48 Church-street, New York, U.S.A., manufacturers (*assignees of* W. F. Wagner, *act. inv.*, 48 Church-street, New York, U.S.A., electrical and mechanical engineer).

Percussive rock-drill; hammer-type with solenoid motor and water jet.

Classes 02.8; 04.3; 72.1; 85.4.

Several solenoids are compressed in a casing (formed of an outer steel jacket **8** and inner brass liner **1**) in which the plunger or hammer **2** reciprocates; one or more central coils are the motor coils, the end coils **3-7** act by demagnetizing to prevent the plunger sticking to the tool and to blow out the sparks at breaking contact; the tool shank **13** is held in an intermittently rotating ratchet sleeve **15** that is driven by pawls on a ring **17** actuated by a sliding cam and spring-tappet gear **30-39**, connected to a reciprocating slider **36** which is struck by the return of the plunger **2**; the slide **36** also drives a plunger pump **40-43** which circulates cooling water through pipes **46, 45,** and **22** to the hollow bit **27**.

Fig. 1.



A feed-rack **50** and hand-worm **48-49** of usual type are shown for the mining drill in Fig. 1. A hand chipping tool of a more portable character, with three solenoid coils, is also shown.

The continuous current may be supplied through a rotary switch shown in a diagram; or by a special reciprocating contact maker having motor coils, blow-out coils with internal contacts, and external dash pots.

15 *typed pages*, 5 *claims*; 1 *fol. drg.*, 6 *figs.*

2258. 4 Jan. *Prov. only.*

A. J. McLachlan, Equitable Buildings, George-street, Sydney, N.S.W., solicitor (*assignee of* C. E. Ponder, *act. inv.*, Arncliffe, N.S.W.).

"An improved swing for recreative purposes."

Class 53.5.

2259. 4 Jan. *Prov. only.*

A. E. Kellam, 108 Pitt-street, Sydney, N.S.W., company manager.

"An improved sash window fastener."

Classes 77.1; 78.7.

2260. 4 Jan. *Prov. only.*

A. E. Kellam, 108 Pitt-street, Sydney, N.S.W., company manager,

"An improved lock nut."

Classes 78.4; 98.1.

2261. 4 Jan. *C.a.P.* 25 Aug. *Lapsed.*

Dr. W. Michaelis, Villingen-Baden, Germany, manufacturer.

"Improvements relating to sound producing and recording apparatus and to records therefor."

Class 01.7.

2262. 4 Jan. W. R. Everett, President Western Trust and Guarantee Co., and E. J. Newton, mechanical engineer, both of Chicago, U.S.A.

Electro-motor wheel; stator and rotor of radiating magnets with commutator all inside the wheel.

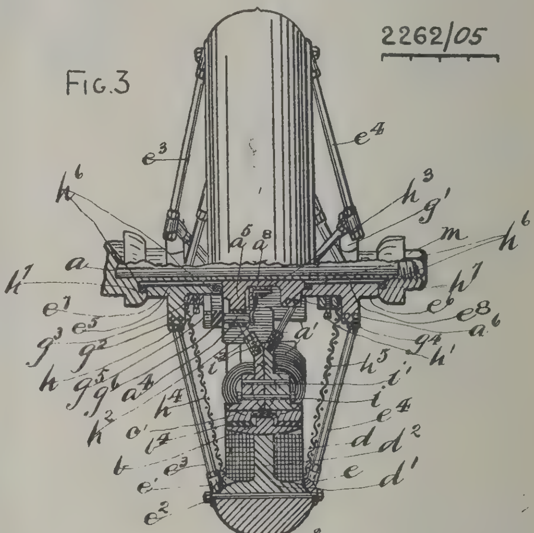
Classes 02.1; 02.2; 02.3; 95.4; 97.4.

Electro-magnetic wheel motors have two concentric rings of electro magnets, the outer ones revolving while the inner ones are stationary. The number of poles for the stator may be exactly devisable by 2 but not by 4, and the rotor should have two more poles than the stationary ones. The illustrations show 12 outer and 10 inner poles, which are so disposed in relation to one another that they produce a constant uniform tangential pull.

The outer rim **d1** of the wheel is journalled upon a hollow axle **a**, through which the supply wires enter, and carries the inwardly projecting magnets **d** provided with specially shaped pole pieces **b**. The electro magnets **d** are connected to a constant ring **g6**, to which current is supplied by the carbon brushes **a4**.

2262/05

FIG.3



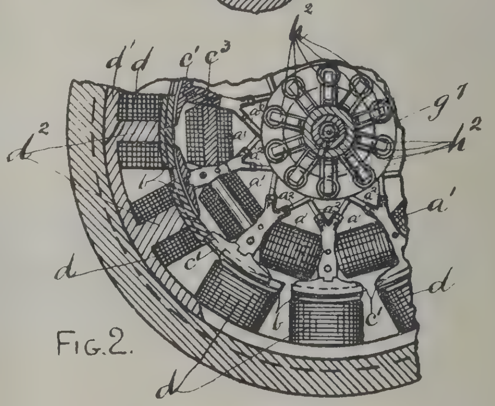


FIG.2.

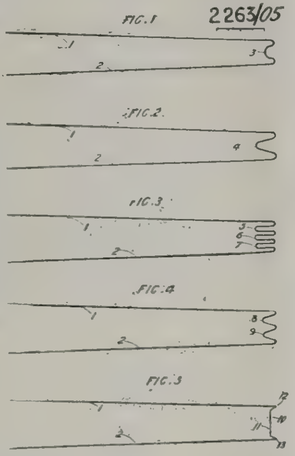
The inner ring of stationary magnets **a1** are all connected in multiple and supplied by current directly from the supply wires; insulation strips **b4** are placed between the two pole pieces **b** and **c1** to make the magnetic flux flow in an axial direction between the pole pieces to avoid strains, which might distort the wheel radially.

29 *typed pages*, 33 *claims*; 5 *fol. drgs.*, 12 *figs.*

2263. 4 Jan. A. M. HENDY, Dunedin, Otago, N.Z., hairdresser.

Hair pin; multi-waved bends.

Class 43.7.



To increase the security of straight-limbed hairpins against slipping out, the bend is formed with several corrugations in the plane of the limbs as illustrated.

4 *typed pages*, 3 *claims*; 1 *fol. drg.*, 5 *figs.*

2264. 4 Jan. *Comp. withdrawn.* H. A. WESTMORELAND, Temple-street, Pietermaritzburg, Natal, S.A., manufacturer.

"A new self-opening gate, and method of construction, and parts therefor."

Class 81.9.

2265. 4 Jan. A. BILLENS, 128 Cashel-street, Christchurch, Canterbury, N.Z., manufacturer.

Spraying pump with oil mixer and circulating pipe.

Classes 31.9; 68.9.

To emulsify the oily preparation for spraying fruit trees, the pump is set in an air chamber **2** into which the liquid is discharged by the pump through a valve **3**. As the liquid is forced into the chamber **2** the air therein is compressed and the liquid in the chamber **1** is forced through the pipe **4** to the spray jet. A second pipe **5** with a choked outlet tap **6** causes a part of the liquid in the main reservoir **7** to be continuously circulated and further emulsified by the agitation of the jet from **6**.

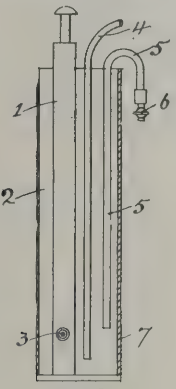


FIG2

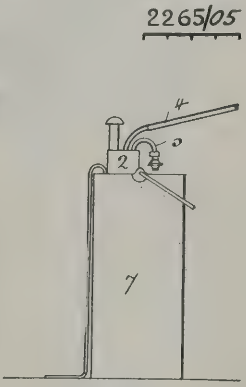


FIG1

3 *typed pages*, 1 *claim*; 1 *fol. drg.*, 2 *figs.*

2266. 4 Jan. L. RISSMULLER, Hotel St. George, 51 Clarke-street, Brooklyn, New York, U.S.A., manufacturer,

Extracting fat from meat by alkali and acid.

Class 35.4.

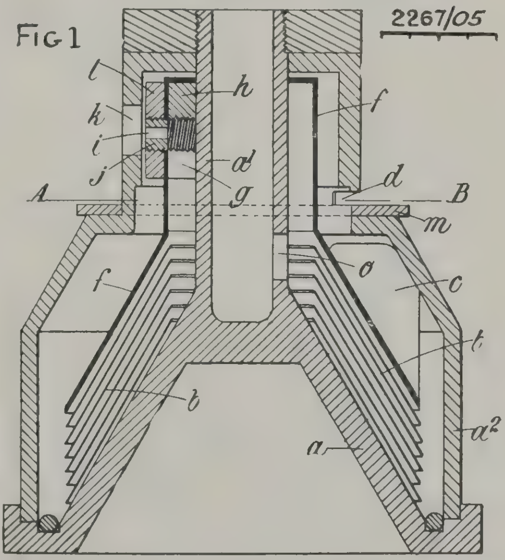
The meat is first subjected to the action of a dilute alkaline solution at 90 to 100 degrees centigrade, to effect an initial separation of the fatty matter from the fibrous matter, and to prevent the clogging up of the pores by coagulated albuminous substances; after diluting the liquor the alkali is neutralized by dilute sulphuric acid, which is added in slight excess, and boiled for three hours to complete the separation of the fatty matter by the destruction of any soaps or emulsions formed during the first stage of the operation.

7 *typed pages*, 1 *claim*. *No drawing.*

2267. 4 Jan. AKTIEBOLAGET SEPARATOR (*corp.*), 8 Fleminggatan, Stockholm, Sweden (*assignees of* E. A. FORSBERG, *act. inv.*, 8 Fleminggatan, Stockholm, Sweden).

Centrifugal creamers; conical liners and cream exit.

Class 36.6.



In centrifugal separators having superimposed conical guide liners, as in G.B. 14,128/*02*, the outlet for the skimmed milk is formed by one or more wide horizontal slots **d**, made in the drum neck, through which it can freely pass into the external casing. The adjustment of the outlet **i** for the liquid is effected by a hollow screw **j** situated in the hood.

5 *typed pages*, 4 *claims* ; 1 *fol. drg.*, 3 *figs.*

2268. 5 Jan. A. Lumiere and L. Lumiere, 21–25 Rue Saint Victor, Lyon-Monplaisir (Rhone), France, manufacturers.

Tinted granulated sensitized screen plates (negative) for colour photography.

Class 52.4.

Transparent coloured starch powder **e** is dusted on to a glass plate **a** coated with transparent pitch **b** ; the spaces are filled with fine black powder, and the whole is covered with a transparent varnish **d**, which, as well as the pitchy matter which retains the grains, should have an index of refraction as near as possible to that of the coloured particles, so that the light may pass through the screen coating without being diffused. Above this coating is another and panchromatic coating **f**. When one of the plates is exposed with its back towards the object glass, the luminous rays traverse the screen coating before reaching the sensitive coating. After development and fixing, the silver reduced in the sensitive coating will mark to different degrees the coloured elements of the screen coating, and will form a picture the colours of which will, when the plate is viewed by transparency, be complementary to those of the light which they have received during exposure.

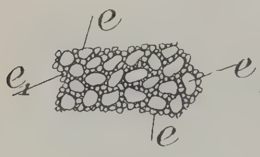


FIG 2

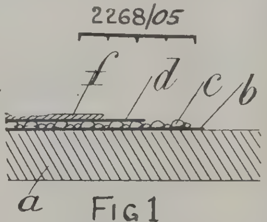


FIG 1

To restore the normal order, it will suffice to invert the negative by any known means followed by a second development.

6 *typed pages*, 2 *claims* ; 1 *fol. drg.*, 3 *figs.*

2269. 5 Jan. J. R. Hatmaker, 25 Rue de la Faisanderie, Paris, France, gentleman (*assignee of* W. S. Magill, *M.D.*, *act. inv.*), 5 Sommerstrasse, Berlin, Germany.

Soluble milk powder from milk evaporated at defined acidity.

Class 36.4.

In preparing milk powder by drying it in a thin film on a cylinder at from 212 to 270 degrees F., as described in G.B. 8743/03, the acidity of the mixed milk is reduced to a uniform standard of slight acidity by means of a one-tenth normal solution of sodium bicarbonate.

4 *typed pages*, 6 *claims*. *No drawing.*

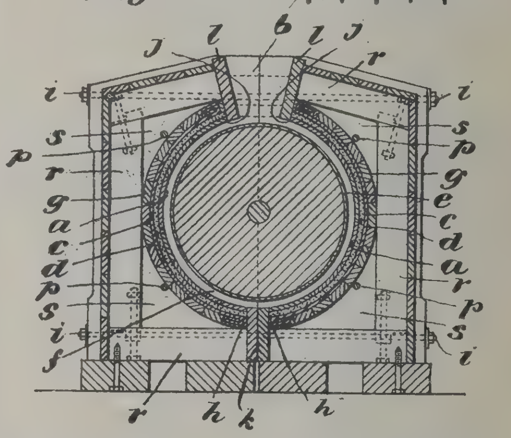
2270. 5 Jan. G. J. Atkins, Ruskin-road, Tottenham, Eng., metallurgical chemist.

Cylindrical anode and immersed rotary cathode, for leach liquor, &c.

Class 07.5.

Atmospheric oxidation of a rotating cylindrical cathode **e**, is prevented by its complete submersion in a hollow cylindrical anode **a** ; to limit the quantity of electrolyte in use, the cylindrical anode **a** is made of two semi-cylindrical blocks of carbon clamped together ; the bottom joint is closed, and a narrow opening left at the top for the escape of gas, &c.; the ends of the cylindrical anode are closed by plates with cemented joints ; a sheet metal or other waterproof conducting coating or vessel encloses the anode, and may be filled with carbonaceous conductor to improve the contact.

Fig. 1.



6 *typed pages*, 3 *claims*; 1 *fol. drg.*, 2 *figs.*

2271. 5 Jan. *Prov. only.*

A. Taylor, Dunedin, N.Z., attendant,

"An improved insole for boots and shoes and the like."

Classes 44.1; 44.3.

2272. 5 Jan. *Prov. only.*

W. A. Clark, Box 551, G.P.O., Melbourne, Vic., mathematical instrument maker,

"A machine or device for physical power-racing."

Classes 53.3; 94.7.

2273. 5 Jan. O. E. Lindfors, *act. inv.*, painter, and S. Borrell, *assignee*, farmer, both of Fruita, Mesa, Col., U.S.A.

Sawsets with toothed roller dies.
Class 80.3.

The main frame **1** is provided at each end with handles **2** having grip-operated levers **19**, which force together a pair of small frames carrying saw-setting wheels or toothed roller-dies **17**, meeting on opposite sides of the saw blade, and mounted on vertical shafts **11** with gear wheels. The frame is pushed along the edge of the saw, and the co-operating rollers set the whole length at one stroke. A screw **28** regulates the depth of the set given to the teeth, and the dies may be changed to suit different pitches for teeth.

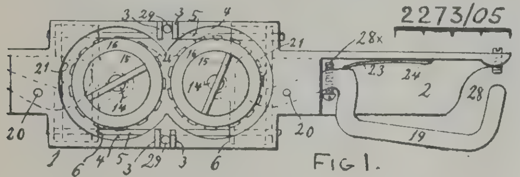


FIG 1.

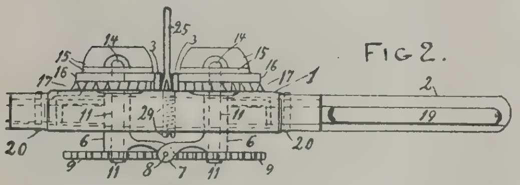


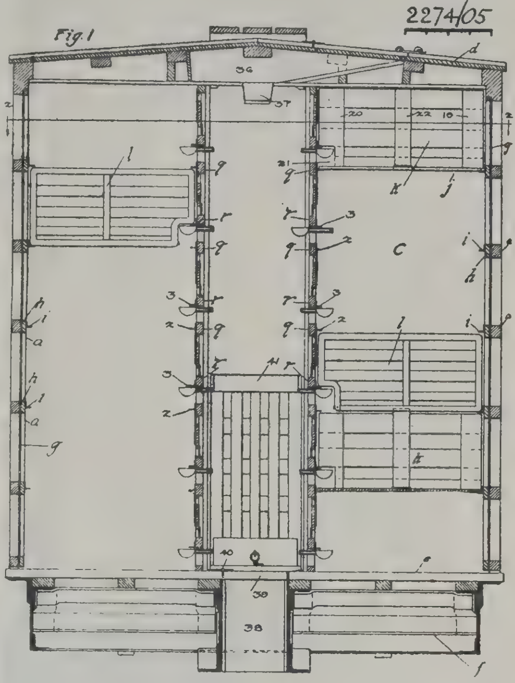
FIG 2.

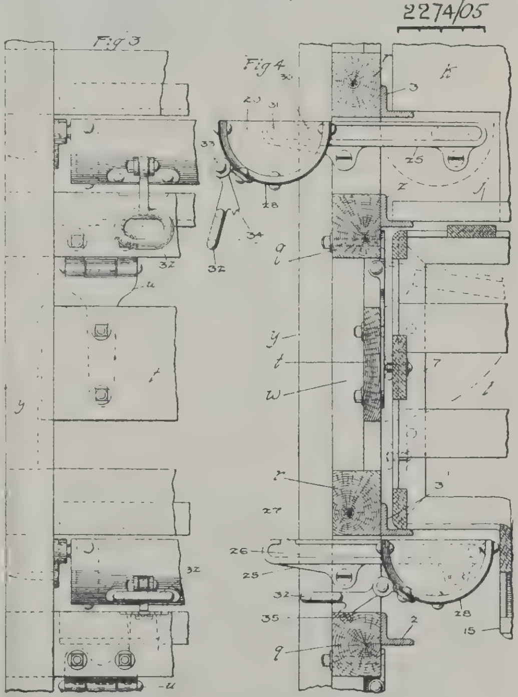
5 *typed pages*, 3 *claims*; 1 *fol. drg.*, 10 *figs.*

2274. 5 Jan. W. H. Judson, 314 East Sixty-sixth-street, Chicago, U.S.A., engineer, and J. B. Watson, 4711 Evans-avenue, Chicago, U.S.A., engineer.

Removable poultry pens for freight cars.
Classes 38.1; 93.1.

A car for the transport of poultry has sheathing of expanded metal and passage partitions fixed by cleats and removable for cleaning; the remaining space is divided into compartments as desired by side partitions **K** and bottoms **j** resting on brackets **1** and **2**, or by crates **l**, supported by brackets **1** and **3**, with recesses for the feed troughs **28** sliding in the





grooves **26** on the passage walls, and fixed by catches **34**; doors **t** swing on hinges **u**, giving access to the crates, which for this purpose have slats **7** sliding in vertical grooves at the ends and fixed by thumb-screws.

Feed is stored in a roof chamber **36** having a shoot **37**, and a door **39** gives access to a compartment **38** for the storage of transverse partitions and bottoms.

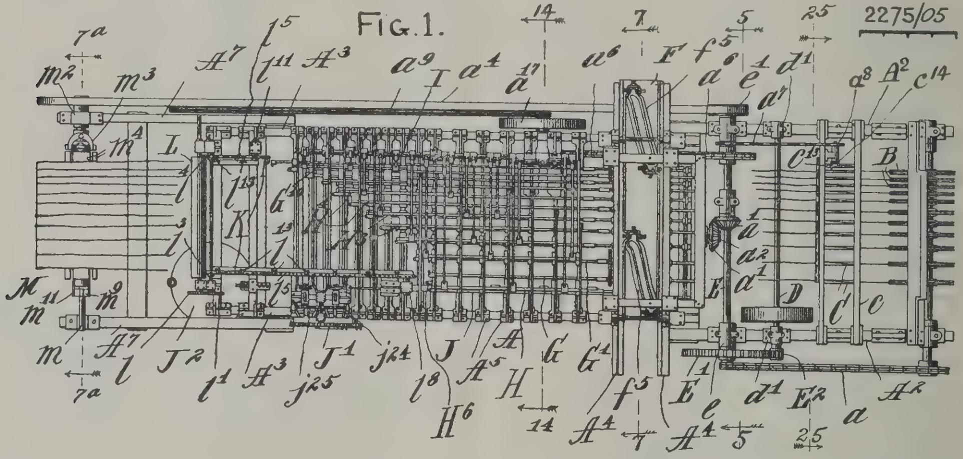
18 *typed pages*, 19 *claims*; 6 *fols. drgs.*, 15 *figs.*

2275. 5 Jan. F. H. Snow, National Mutual Buildings, King William-street, Adelaide, S.A., patent attorney (*communicatee of* C. M. Lamb, *act. inv.*, Monessen, Westmoreland, Penn., U.S.A., manufacturer).

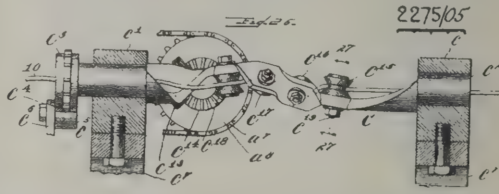
Weaving netted fabric for wire fencing. Classes 58.5; 81.8.

A machine for weaving a net or fabric in lengths that may be rolled up for transit, has means for waving the horizontal strands as they are drawn through the machine. The vertical stays are cut from a separate spool of wire fed across and wrapped around the strands. Fig. 1 shows a plan of the machine, Fig. 15 the rotating heads **G** which wrap the stay **12** around the strand **4**, and Fig. 25 the waving device.

The strands pass over a measuring feed-drum **B** to the waving device **C** (not detailed in Fig. 1); the stay wire is fed by mechanism **J1** from a spool **J2** to knives **J**, the severed stays passing to rotary wrappers **G1** to **G10** reciprocated longitudinally by cams on a slide **F**, and operating successively on each stay. The fence is stretched and straightened in its passage by hooks on endless chains **K**, and is wound on a collapsible drum **M**. The main shaft **E** drives the drum **B** by a chain **a**, the slide **F** by bevel gearing **a1**, and the drum **M** by a belt **a4**. The waving mechanism, Fig. 25, comprises hollow shafts **c2**, carrying staggered rollers **c15** to **c18**, among which the strands pass in their course along the axes of the shafts **c2**; the latter are driven by an endless chain from bevel gearing **c14**, Fig. 1.



The transversely operating slide **F** is fitted with upper and lower racks and adjustable cams oppositely arranged. The upper racks and cams operate the odd-numbered wrapper shafts **G**, **G3**, **G7**, **G9**; the lower cams are similarly connected to the even-numbered wrapper shafts **G2**, **G4**, **G6**, **G8**, **G10**. The slide **F** is guided by cross slides **A4**, Fig. 1.



The stay-wrappers with the wrapper **G1** gear alternately with the lower and upper racks, while the end wrappers **G**, **G10** are geared to rotate faster than, and oppositely to, the wrappers **G1**, **G9** to produce the end bends. The wrappers have hooks, **g10**, Fig. 15, which successively wind each stay around the strands. The strands are inserted through the sides of removable slotted plugs **g13** in the wrapper heads, and are tightened by tension rings **h12**. The stays are carried across the strands by notched discs and blocks operated by rods from a rocking shaft **I**.

The stay wire is fed in lengths from the spool, and passes by a tube to a cutterhead rotated intermittently by a disc and pawl on the slide **F**. The wire enters one of the slots in the shaft **J**, is severed, and transferred by the first set of blocks **H** and projections to the first strand, the ends of the stays being bent by fixed members **H6**, Fig. 1.

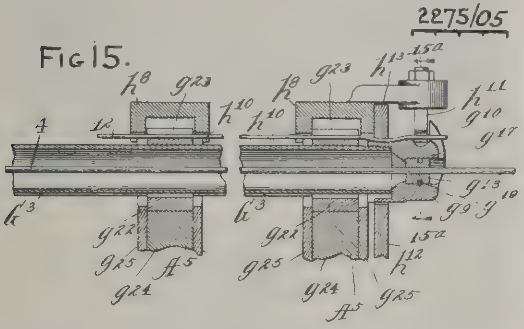


FIG 15.

The stays may be of unequal length, and one or more top wires or strands may be applied in a similar manner to the fence, and have slip connexions with the main stays or strands.

The take-up drum **M**, mounted on a universal joint, consists of four collapsible sections **m4**, operated by handles **m9**, **m14** to release the fence, and are provided with sheathable hooks.

33 *typed pages*, 21 *claims*; 14 *fols. drgs.*, 46 *figs.*

2276. 5 Jan. *Prov. only.*

G. C. de Witt, 10 Parliament-place, Melbourne, Vic., metallurgist.

"Improved combined furnaces for treating antimony and other like ores."

Classes 08.5; 15.2; 15.6; 16.4; 16.5.

2277. 5 Jan. T. K. Crossley, commercial traveller, and G. Jones (*jun.*), manager, both of 5 Pall Mall, Liverpool, Lancashire, Eng.

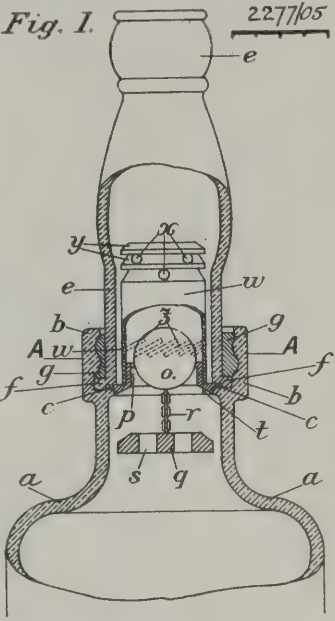
Non-refillable bottle: ball valve, cemented neck joint.

Class 57.6.

The neck **e** is cemented into the body at a screwed joint **g**; **o** is a ball valve resting on a seat **p** and enclosed in a cap **w** which is provided with air inlet holes **z** and liquid outlet holes **x**.

A weight **q**, having holes **s**, is attached to the valve to bring the valve **o** back to its seat when the bottle is in the erect position.

Fig. 1.



7 *typed pages*, 5 *claims*; 1 *fol. drgs.*, 4 *figs.*

2278. 5 Jan. *Prov. only.*

A. J. Cuming, 769 Sydney-road, Melbourne, Vic., engineer.

"Improvements in wheels and pulleys and method and material for manufacturing same."

Classes 48.1; 62.7; 97.2.

2279. 5 Jan. *C.a.P.* 29 Sept.

H. P. Ball, 529 west 34th-street, New York, U.S.A., electrical engineer.

Tune-sheet for accenting by duplex ducts, with high and low pressures.

Class 01.6.

Perforated music rolls or tune-sheets for use with mechanical musical instruments have two series of perforations, one of which is adapted to co-act with the other to select, accentuate, or soften certain predetermined notes.

The tracker board **10** has two sets of tracker ducts **11–12**. The tune-sheet **13** moves over the tracker board, and, in addition to the ordinary series of perforations **14**, has a second set **15** situated to one side of the perforations **14** with which they co-act. Figs. 3, 5, and 6 illustrate three styles of the perforations.

2279/05

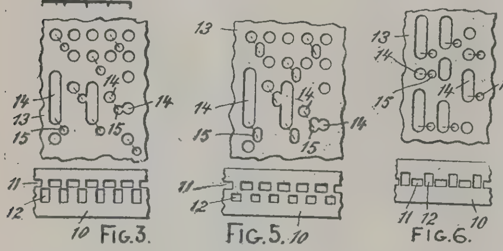


Fig. 3. Fig. 5. Fig. 6.

The tracker board **10** with the ducts arranged in the manner illustrated may be fitted to any suitable pneumatic instrument having separate bellows and reservoirs for low and high pressure air, that are connected respectively to the sets of tracker ducts **11** and **12**, to give varied impulses to the power-pneumatics.

Prov. 9 *typed pages*; 2 *fols. drgs.*, 8 *figs.*
Comp. 11 *typed pages*, 24 *claims.*

2280. 5 Jan. *C.a.P.* 29 Sept.

H. P. Ball, 529 west 34th-street, New York, U.S.A., electrical engineer.

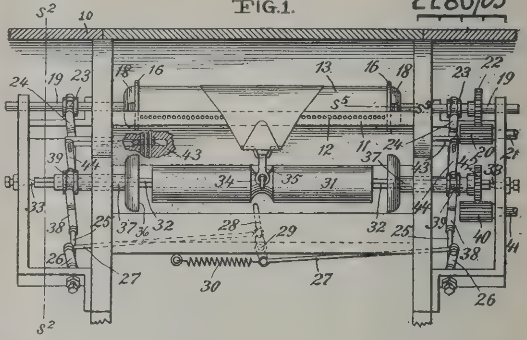
Winding gear with compensated centering guides for music tune-sheets.

Class 01.6.

To prevent irregularities of width (from hygrometric or thermal expansion) of music tune-sheets, causing a want of co-operation between the tracker ducts and the perforations in the tune-sheet, the flanges **36** of the winding roll **31** slide on squared axles, and are mutually drawn together by a spring **30**, through linkages **27** to **44**, so that the pair of flanges are always equidistant from the centre line of the tracker board.

The linkwork for the supply and gathering rollers are connected by rock shafts and levers **25**, and a finger lever **28** enables the flanges to be separated for removing or replacing the tune-sheet.

FIG. 1. 2280/05



When the sheets are of less width than the row of tracker ducts, slide valves **43** (also linked to the spring) close those ducts which are outside the sheet.

Prov. 8 *typed pages*; 1 *fol. drg.*, 5 *figs.*
Comp. 10 *typed pages*; 17 *claims.*

2281. 5 Jan. *Prov. only.*

A. M. Nicholas, Bank-place, Collins-street, Melbourne, Vic., mining engineer.

"An improved rotary filtering apparatus for the separation of liquids or solutions from tailings, slimes, sewage, and the like."

Classes 14.7; 28.2.

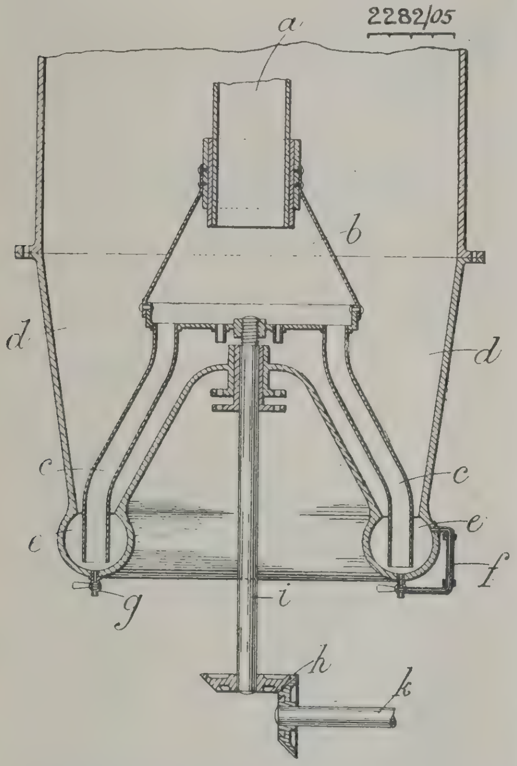
2282. 6 Jan. *C.a.P.* 18 July.

H. C. Ciantar, engineer, and U. Ciantar, merchant, both of and 10 Great Tower-street, London, Eng.

Amalgamating sea-water for gold; recovering floured mercury.

Classes 10.8; 13.5; 13.6.

Gold is extracted from solution in sea-water by bringing the water into intimate contact with mercury in a vessel **d**, the depth of which is about fifteen times the depth of the mercury used.



Sea-water is pumped through a pipe **a** into a rotating chamber **b** provided with branch pipes **c** in which the rate of flow is reduced to from 1 to 4 feet a second, the chamber **b** being at the same time caused to rotate by gearing **h**, **k**.

Mercury in the annular channel **e** is intimately mixed with the water by the action of the rotating pipes **c**, while the mercury which is suspended in the overflowing water is recovered in a series of settling tanks, which are used in rotation by means of automatically changing valves.

6 typed pages, 5 claims; 1 fol. drg., 1 fig.

2283. 6 Jan. *Prov. only.*

A. Taylor, Dunedin, N.Z., attendant.

"An improved combination writing paper and envelope."

Class 49.3.

2284. 6 Jan. *Prov. only.*

A. Hutchison, 243 Collins-street, Melbourne, general agent.

"Medicated electric battery plaster."

Classes 87.3; 87.8.

2285. 6 Jan. *Prov. only.*

T. Ferguson, Kangaroo-road, Oakleigh, Vic., engineer.

"Improvements in machines for syruping and filling with aerated water internal stoppered bottles."

Class 27.5.

2286. 6 Jan. *Prov. only.*

W. H. Griffiths, "St. Albans," 33 Cambridge-street, Enmore, Sydney, N.S.W., inventor.

"A new and improved method of obtaining power from steam."

Class 63.1.

2287. 6 Jan. *Prov. only.*

T. E. Abbott, Lugar-street, Waverley, Sydney, N.S.W., electrician.

"An improved device for applying electrical currents to the human body to be used in connexion with an electric bath as a brush or sponge."

Class 87.8.

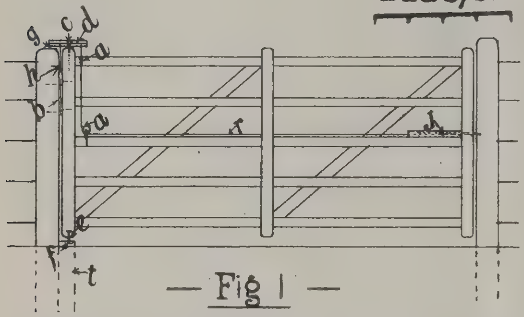
2288. 6 Jan. J. Paull, Wyndham, N.S.W., mining engineer.

Automatic gate opener; wheel, ropes, and levers.

Class 81.9.

Wire ropes attached to a grooved wheel **d** on top of the hinge-style lead along the road in opposite directions to levers fixed on the top of roadside posts; the wheel has a small central idle motion against a stop **h** before moving the gate; this motion draws back the spring-bolt **J** of the gate by a cord **r** which passes over pulleys **a, a** along a rail of the gate.

2288/05



— Fig 1 —

5 MS. pages, 2 claims; 1 fol. drg., 6 figs.

2289. 7 Jan. *Prov. only.*

T. Mercer, Stratford, Taranaki, N.Z., hairdresser.

"Improved pneumatic sock or inner sole for boots, shoes, and the like."

Class 44.3.

2290. 9 Jan. *Prov. only.*

H. Hobbs, Clarinda-street, Parkes, N.S.W., tailor.

"Hobbs' alteration book, suitable for showing misfits in tailor and shop made clothing."

Classes 43.1; 54.4.

2291. 9 Jan. *Prov. only.*

M. Doohan, Weelong Telegraph Hotel, Louth, Gilpa-road, River Darling, N.S.W., carpenter.

"Kalos roof paint."

Class 79.3.

2292. 9 Jan. R. Harvey, 17 London-street, Newtown, Sydney, N.S.W., master plumber.

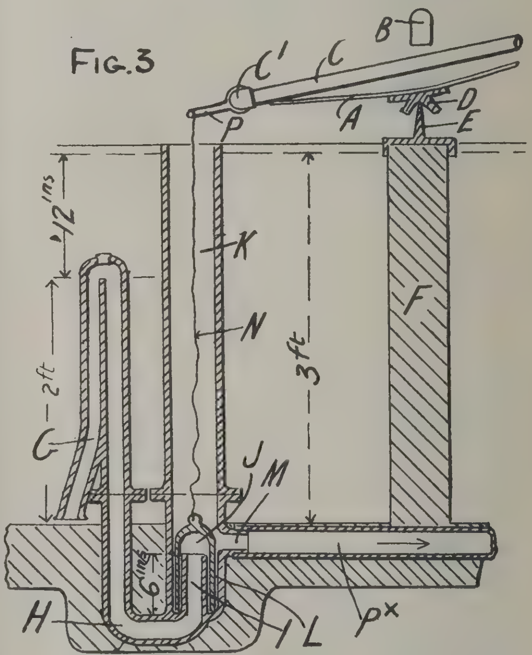
Siphon valve and quadruplex bascule for distributing sewage.

Classes 86.4; 86.7.

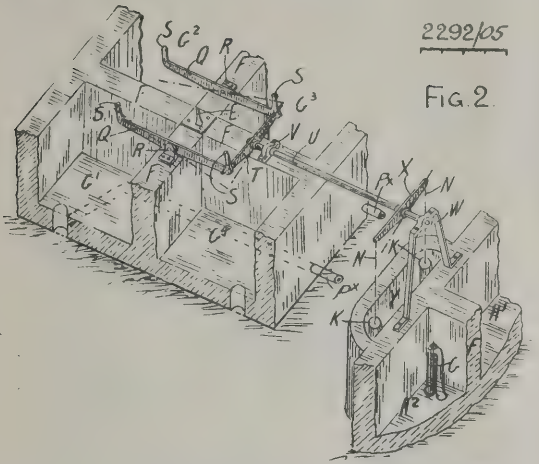
Siphon valves (Fig. 3) have a bell **J** sealed by a liquid in the groove **L**, and connected to a submerged siphon **G**; the bells are lifted by the operation of a quadruplex bascule, Fig. 2, described in N.S.W. 12,962; Vic. 20,335; Qld.

2292/05

FIG. 3



7181; S.A. 8266/6067; W.A. 4352; Tas. 3714.



2292/05

FIG. 2.

Under the bascule a pair of tilting levers **Q** operate a rock shaft **U** having cross arms **X** from which cords **N** are attached to the bells **J**.

The valves may be used with either single or double contact systems of filter beds.

6 typed pages, 4 claims; 2 fols. drgs., 6 figs.

2293. 9 Jan. *C.a.P.* 9 Oct.

G. H. Dunn, Bendleby, S.A., farmer.

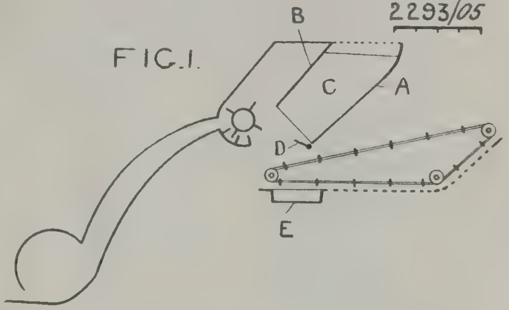
Cleaning and separating gear for strippers. Classes 32.3; 32.6.

The grain is thrown from the damp weather thresher into a divided hood, the back **A** of which slopes from the top forward and downward to deliver the grain on to the sieves; between the back of the hood and the damp thresher is a similarly sloping division plate **B**, which prevents the grain from passing into the thresher a second time. Inclined wings **C** in the hood direct the grain upon the centre of the sieves, and an adjustable lip **D** at the bottom edge of the hood regulates the flow of grain to the sieves.

The sieve box is provided with any number of sieves, and has a shallow pan **E** at its front end, into which the grain falls from the hood, preventing the rebound of the grain.

At the back of the top sieve is a return lip of any usual form, having a flat forward portion perforated to allow the unthreshed heads to pass through, and an upwardly curved back portion of sufficient height to prevent the escape of any grain with the straw.

Over the top sieve a chaff elevator and a feed-flow regulator are arranged, a door being provided at the bottom of the unthreshed-heads shoot for cleaning out unthreshable residue.



2293/05

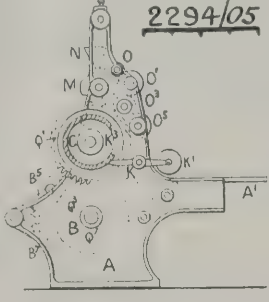
FIG. 1.

Prov. 4 typed pages; 1 fol. drg., 4 figs.
Comp. 6 typed pages, 5 claims.

2294. 9 Jan. C. B. Smith, 49 Moray-place, Dunedin, N.Z., printer.

Numbering machine for printing presses. Classes 50.7; 56.2.

In a numbering machine in which all the figure-wheels, Fig. 5, are positively geared, **A1**, Fig. 2, is a table on which sheets are fed against a stop **K**. As a cam on the shaft **C** revolves, a gap **K3** allows a roller **K1** to drop on to a sheet as the stop **K** rises, and the sheet is fed forward between the roller **B** and the figure-wheels (mounted in reel frames) on shaft **C**, and then under **B5** and **B7** to a delivery box under the machine. The grooved roller **M** is worked from shaft **C** by geneva gear, and supplies ink from the well **N** to the ink rollers **C3** and **C5**.

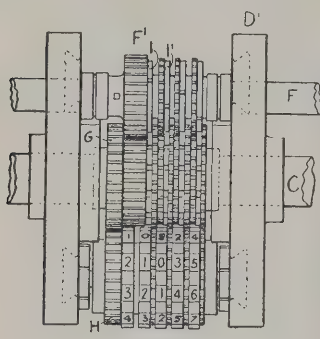


2294/05

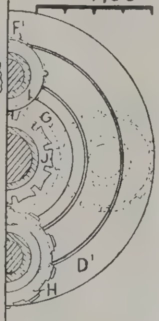
FIG. 2

On the shaft **C** are three reel frames, one of which carries a five-star wheel, Fig. 7, which actuates through a five-change gear the shaft **F** extending through the reel frames, **D1**, which carry the figure-wheels. Secured to the shaft **F** is a toothed wheel **F1**, which, through the two wheels **G** (attached together, but loose on the shaft **C**) operates the wheel **H** attached to the units figure-wheel. Secured to the shaft **F1** is a one-tooth geneva wheel **I**, gearing with a 12-notch wheel **J** attached to two-toothed wheels, one of which actuates the tens figure-wheel, while the other gears with a toothed wheel carrying the one-tooth geneva wheel **I1** on the shaft **F**, which, through similar gearing, actuates the hundreds figure-wheel, and also works back to actuate the thousands, and so on to as many places as may be needed.

2294/05



F I G : 6



F I G : 7

The figure-wheels are carried in a circular dovetailed groove in the reel cheeks **D1**, and may be lifted out of a groove in the notched nuts at each end when the nuts are slacked back.

The star-wheel is driven through gearing from the shaft **B**, by which (in combination with the change gear on the reel frame) the numbers may be printed in duplicate, or in any desired progressive series.

An alternative arrangement is described in which the outer wheels on the reel frames also carry numbers.

7 *typed pages*, 7 *claims*; 1 *fol. drg.*, 11 *figs.*

2295. 9 Jan. J. F. Liebentritt, Cumberland Pottery, Bankstown, Sydney, N.S.W., pottery and tile manufacturer.

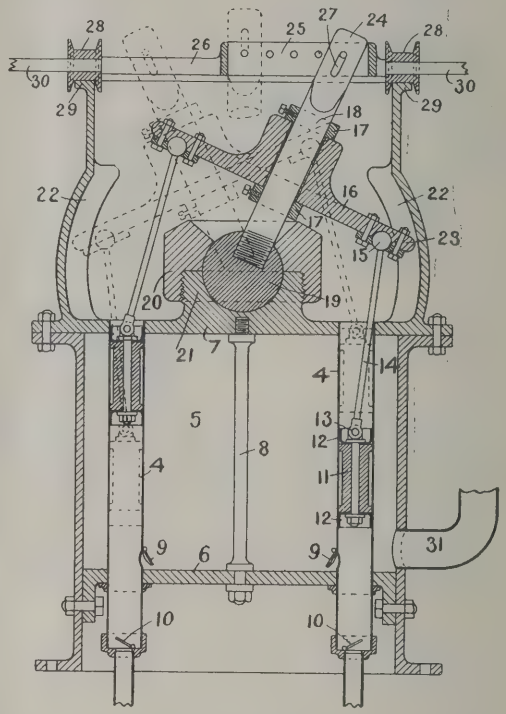
Multiple pumps reciprocated by gyrating disc.

Classes 60.1; 68.3.

In a multiple pump a number of barrels **4** are arranged concentrically around the centre stay bolt **8** of the air vessel **5**, into which they discharge through the valves **9**, the pistons, with top and bottom cup leathers **12**, are connected by rods **14** to the gyrating disc **16**, which is loosely attached to the shaft **18** by the collars **17**, and is prevented from turning with the shaft by the webs **22** engaging with slots in the edge of the disc.

The stroke of the pumps can be varied by adjusting the eccentricity of the gyrating head **24** in the slot **25**; the rotating lever **30** is carried by rollers **28** running on the circular track **29**.

FIG. 3 2295/05



5 *typed pages*; 5 *claims*, 2 *fols. drgs.*, 3 *figs.*

2296. 9 Jan. *Prov. only.*

W. Stoddart, *C.E.*, 141 Walker-street, North Sydney, N.S.W., civil engineer.

"Patent neck for bottle or jar, which, when fitted on to suitable bottle or jar, produces an unfillable bottle or jar, and guarantees the initial contents thereof."

Class 57.6.

2297. 10 Jan. *Prov. only.*

A. Orr, 49 Rose-street, Armadale, Vic., machinist.

"Improved automatic spring wheel scraper."

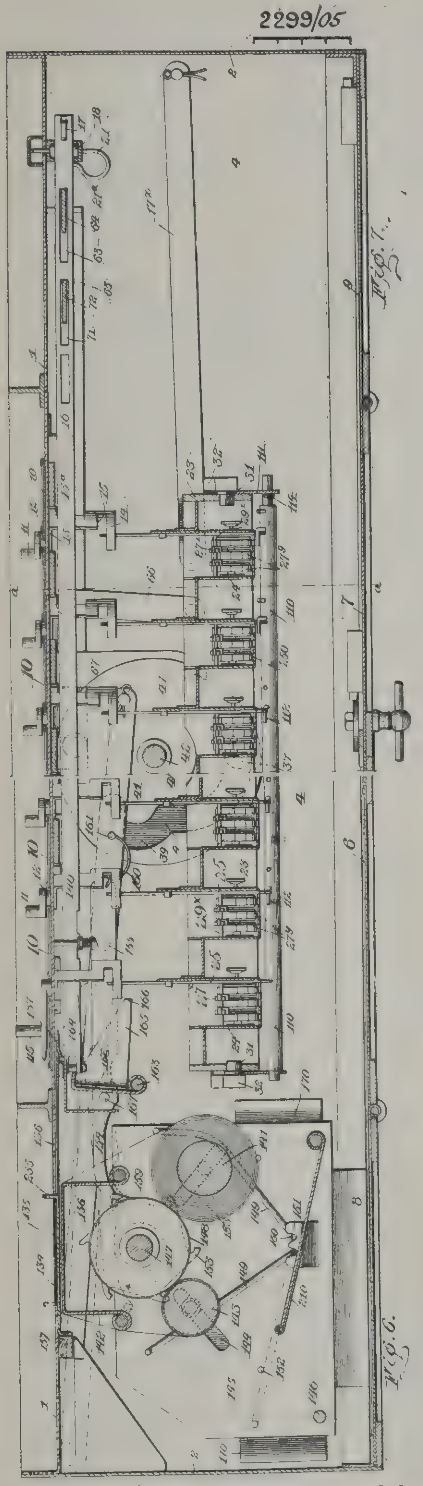
Class 93.3.

2298. 10 Jan. *Prov. only.*

E. W. Crow, Halifax, Qld.

"An improved portable apparatus for loading cane from the field into vehicles."

Classes 33.1; 59.1.



2299. 10 Jan. F. F. Church, Rochester, New York, U.S.A., lawyer (*assignee of* A. J. Gillespie, *act. inv.*, Rochester, New York, U.S.A.).

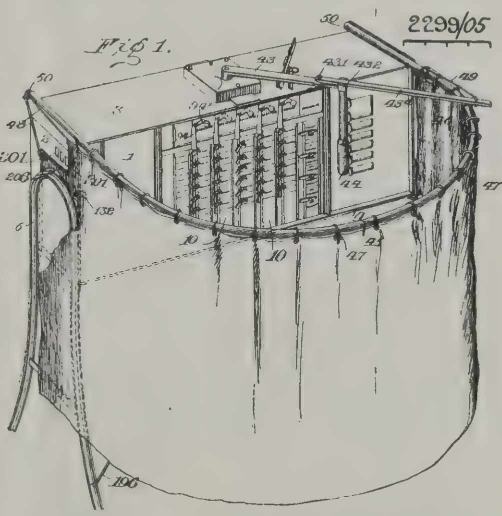
Application under Sec. 7, patented in—

W.A. ...	3264 ...	11th January, 1901
S.A.	6904/5137 ...	15th January, 1901
Vic. ...	17,843 ..	17th January, 1901
N.S.W. ...	10,747 ...	18th January, 1901
Tas. ...	2968 ...	18th January, 1901
Qld. ...	5850 ...	19th January, 1901

Political voting machine.

Class 56.2.

This machine, Fig. 1, provides, *firstly*, for separately totalizing the votes cast for six officers under previous nomination by five political parties; *secondly*, for direct referendum for or against four special questions; *thirdly*, for receiving written votes for candidates not previously nominated by one or other of the parties, which are afterwards clerically counted; and *fourthly*, for separately counting the number of voters using the machine.



Provision is also made for removable counter-shafts between the "party" columns, so that when a candidate is nominated by several parties a "straight ticket" or solid vote on one party column will also be recorded for that particular candidate in the other party columns. Interlocking devices of sliding horizontal and vertical rods prevent improper votes, or accidental misplacing of the counters during inspection or removal.

Figs. 6 and 7 are conjoined half-plans of the interior of the box, the back of the machine being to the right hand as printed. Fig. 8 is a section of the left hand part of Fig. 1 viewed from the back, with the paper drums, Fig. 6, removed.

The apparatus is mounted in a sheet metal frame box **3** which stands on removable L-iron trestles **5**; in front a curtain **46** hangs on a semicircular rail **45**, and is drawn aside by each voter as he leaves the machine by a handle **44** on a radial lever **43** operating a vertical shaft **42** in the centre of the machine, this movement of the shaft replaces all the indicators **11** set by the departing voter, locks them so that they cannot be moved whilst the curtain is withdrawn, and adds one unit to the counter **20** of the total voters.

2299/05

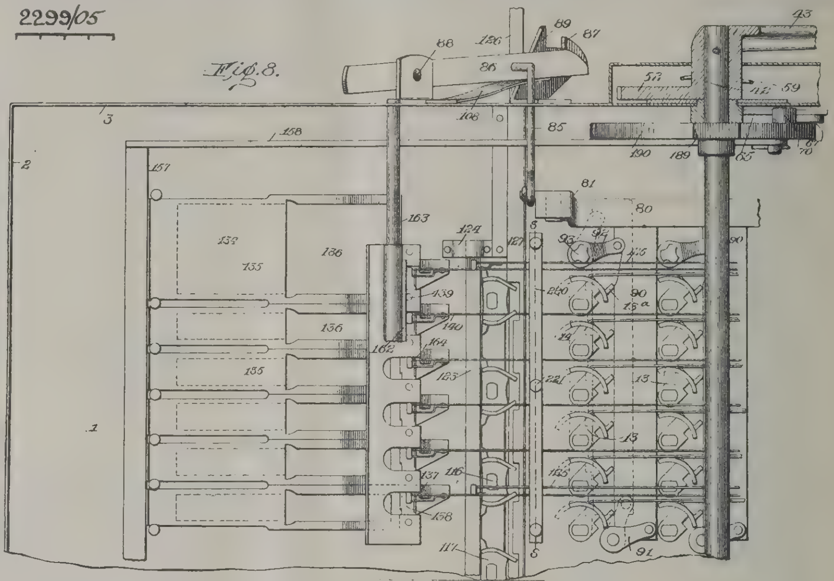


Fig. 8.

The vote indicators are lever handles **11**, Fig. 15, arranged in vertical columns (to which the nominated candidates' names are attached), one column each for "Ministerial," "Labour," &c., with a separate column of shutters for written votes; and in horizontal rows for each office, such as "President," "Secretary," &c.; above each column is a "straight-ticket" handle **94**, Fig. 1, the operation of which moves all the indicators in that party column, but the voter desiring it may afterwards exchange his votes, and re-arrange the particular candidates if he does not give a straight vote. The several office indicators are interlocked, Fig 16, on the bead-block system, so that no more indicators can be moved than there are candidates to be elected. The setting of any indicator **11** does not directly operate any counter, but rotates a coupling key **14**, Fig. 15, into engagement with the push-rods **25** of the counters for the particular votes; thus any voter may alter his selection while in the machine as much as he likes without actually recording any vote. The counter gears are decimally marked wheels **27y** (with mutilated-pinion connexion, and hand zero-setting) which are mounted on a movable frame **24** slung on links, forming a parallel motion operated by cams on the central shaft **42**, so that the motion of the curtain lever **45a** as the voter leaves causes the counter frame to advance against those coupler keys which have been set by the voter, and thus to record the proper votes.

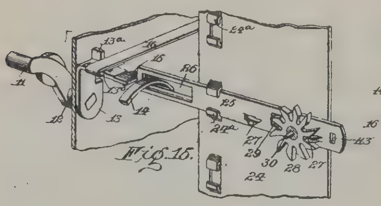


Fig. 15.

2299/05

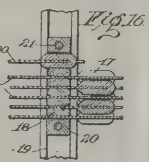


Fig. 16.

The indicators for referendum votes have duplex key-couplers that engage with either the "for" or "against" counter of the pair for that question, but the voter may leave these indicators in neutral mid-position. As the voter closes the curtain on entering the radial lever is latched at **86**, Fig. 8, and it is not released until some one party handle is operated, thus compelling voters to register some complete vote; the curtain lever has also a quadrant rack **52** and fly-over detent to prevent partial or incomplete strokes of the mechanism.

To vote for a candidate not on the nomination list, the voter turns up all indicators under the party columns, and then draws back a coverplate **135** or shutter (which is also interlocked by the bead-stops) and writes the name on the paper visible beneath. The paper is a continuous roll, which is intermittently fed by a hooked pawl connected to the vertical shaft **42**, the pawl being held out of contact with the roller-feed until some shutter is opened. When the voter departs the return action feeds the paper one space and closes the shutter. The frame holding the paper rollers may be entirely removed for counting and scrutiny after the election.

The register wheels **27y** show the totals at the back, and are hidden by doors **6** which cannot be unlocked until a separate key has locked a bolt into a notch on the cam-wheels of the vertical shaft, thus preventing fraud by the officials.

When the whole machine is not required, certain columns may be separately covered and locked by sectional coverplates, or by a sliding bar for the referendum indicators.

63 *letterpress pages*, 187 *claims*; 11 *fols. drgs.*, 25 *figs.*

2300. 11 Jan. *Prov. only.*

A. Taylor, Ashburn Hall, Dunedin, N.Z., attendant.

"Improvements in cisterns for flushing water closets and the like."

Class 86.2.

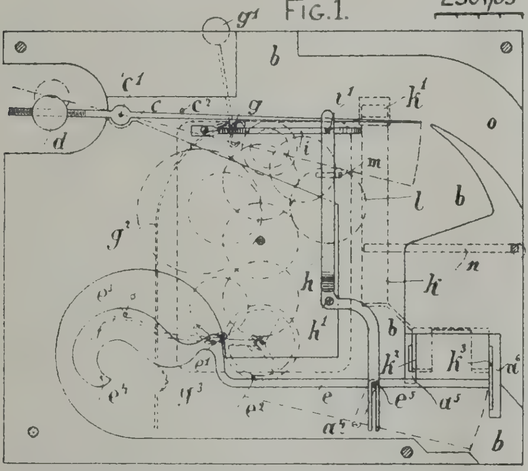
2301. 11 Jan. S. Krause and S. Grudzinski, Bahnhofstrasse 89, Zürich, Switzerland, engineering students.

Coin-freed alarm clock for hotels, &c.

Classes 00.1; 54.7; 55.7.

A coin of the proper size and weight, when inserted in the slot **b** depresses the counter-balanced lever **c**, and, passing the guide **b**, depresses the lever **e** at the bottom. A pin **e5** (on **e**) rocks a lever **h** whose upper end operates the spring **i**, on which is a pin **i1**, which locks the lever **c** in its upper position. An arm **k2** on a lever **k** temporarily retains the coin on the end of lever **e**, thus keeping a stop-pin **e3** raised from the escapement-lever **f**, allowing the clock to work while **e** is depressed by the weight of the coin.

FIG.1. 2301/05



On the clock being released at the set time, a projection **m** on the main spring or wheel **l** of the alarum presses back the lever **k** with arm **k2**, and allows the coin to roll on the lever **e** until it encounters a second arm **k3** on the lever **k**. When the projection **m** has released the lever **k** the arm **k3** rises and the coin rolls out into a receptacle (not shown), releasing the lever **e**, which rises, and the depressed pin **e3** stops the clock; the pin **e4** falling below a recess **g3** in the hammer-tail **g2** prevents it oscillating.

5 *typed pages*, 2 *claims*; 2 *fols. drgs.*, 6 *figs.*

2302. 11 Jan. J. Nicholas, 14 Church-road, Waterloo, Lancashire, Eng., manufacturing chemist.

Chloridizing, leaching, and amalgamating process for complex ores.

Classes 08.3; 13.5; 14.5; 15.2; 15.8.

The ore is mixed with water to form a paste, salt NaCl is added, and the mixture is heated in a muffle or oven. The zinc and cadmium are converted into chlorides, which are removed from the mass by leaching with water. The cadmium is recovered by precipitating it with sulphuretted hydrogen, and the zinc is precipitated with lime.

The residue is dried, fluxed, and run down in a furnace. The silver and gold are separated from the molten lead by stirring an aluminium rod in the mass. A crust, which forms on the surface, consists of an alloy of aluminium gold, and silver, and is skimmed off. The aluminium is separated by boiling with hydrochloric acid, and the residue of gold and silver is easily obtained in the metallic state.

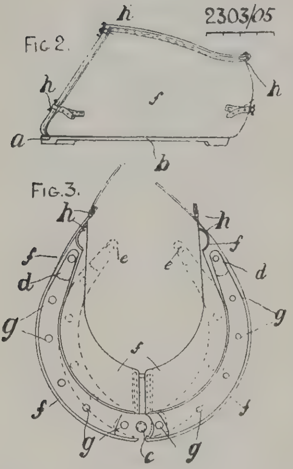
If the residue contains metals other than gold, silver, and lead, or if the ore contains insufficient zinc to be worth attention, the residue or the powdered ore is boiled with sodium chloride, manganese dioxide, and sulphuric acid, to convert the metals into chlorides, which are separated from the sodium sulphate by crystallization.

6 *pages MS.*, 6 *claims.* *No drawing.*

2303. 11 Jan. D. Gray, 11 Farnworth-street, Liverpool, Eng., sergeant of mounted police, and W. Larkin, 28 Thompson-street, Higher Tranmere, Birkenhead, Chester, Eng., customs officer.

Metal-shod adjustable horse boot.

Class 39.3.



The shoe is constructed in two parts, **a** and **b**, pivoted together near the toe by a rivet **c**, which renders the shoe adjustable to varying sizes of hoofs. The surface of the shoe next the hoof is covered with leather **f** secured by copper rivets **g**. This covering is adapted to fold around the hoof, and is secured by straps and buckles **h** at the front and rear.

3 *typed pages*, 2 *claims*; 1 *fol. drg.*, 3 *figs.*

2304. 11 Jan. *Prov. only.*

R. Stanley, *J.P.*, "Manor Court," Nuneaton, Eng.

"Improvements in combined apparatus for grinding or crushing, washing and separating ores."

Classes 11.9; 13.3.

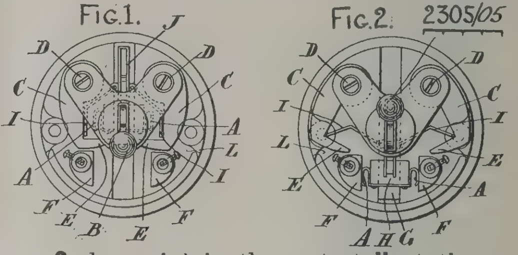
2305. 11 Jan. G. Smith, 12 Clarence-place, Cardiff, Great Britain, electrical engineer.

Tumbler switch with moving insulating partitions.

Class 04.3.

In the "off" position the swinging lever **B** has contact springs **A** on the block **H**, which are partitioned from the fixed contacts **F** by means of two pivoted pieces **C** of insulating material which are pressed (by springs encircling the pivot pins **D**) against an insulating block **G**, secured to the contact **H**.

On closing the switch, the arms **C** are forced apart, to allow the contact **H** to pass, by the action of two links **I** hinged either to the contact **H** or to its carrier **J**. The spring-actuated arms **C** also maintain the contact **H** at the extreme ends of its movement by fly-over action. The working parts are insulated from the switch-cover by a sheet of mica.



4 *typed pages*, 2 *claims*; 1 *fol. drg.*, 4 *figs.*

2306. 11 Jan. *Prov. only.*

W. Stellner, 39 Macarthur-place, Carlton, Vic., engineer.

"A turbine motor."

Classes 67.1; 67.4.

2307. 11 Jan. *Prov. only.*

A. L. J. Tait, 1 Balmain-street, Richmond, Vic., inventor.

"Appliance to be used in washing clothes."

Class 25.2.

2308. 11 Jan. *Prov. only.*

W. A. Lingham and F. H. Relph, 3a Moore-street, Sydney, N.S.W., stationers and merchants (*agents for the* Fox Typewriting Co. Ltd., Grand Rapids, Michigan, U.S.A.)

"The Fox card platen attachment."

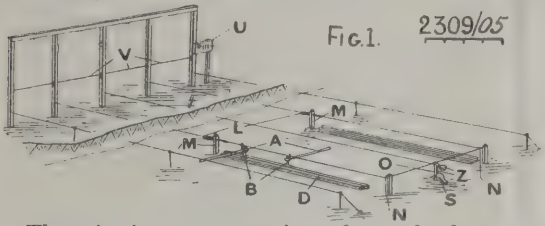
Class 50.4.

2309. 11 Jan. *C.a.P.* 9 Nov.

E. S. Rowe, Plattsburg, N.S.W., Kalgoorlie, W.A., auctioneer.

Recording and indicating foot races by electric lamps, &c.

In machines for race starting, time recording, and judging, the track is divided longitudinally into divisions by cords as shown, Fig. 1. The cords, which are attached to a trigger **Z** (which may be released by either hand or foot), and stretched by spiral springs **L**, release the spring-operated transverse barriers **B**. The barrier arms **A** swing in a horizontal plane from the transverse position, when released by the cord. The trigger **Z** is also provided with a press button electrically connected to stop a recording watch at **U**.



The winning post consists of standards provided with cords **V**. These cords each control the circuit of an electric lamp over the particular division to which it belongs, and also the stop watch at **U**. When any cord is moved by a competitor, the circuits are completed through the lamp and the stop watch, the first lamp to light-up indicating the winner.

Classes 00.1; 53.3.

Prov. 4 *MS. pages;* 1 *fol. drg.*, 4 *figs.*
Comp. 7 *typed pages*, 11 *claims;* 1 *fol. drg.*, 2 *figs.*

2310. 11 Jan. *Prov. only.*

W. Mizon, 180 Hanna-street, South Melbourne, Vic., engineer.

"A method of and apparatus for propelling vessels or actuating machinery."

Classes 64.7; 92.2.

2311. 12 Jan. *Prov. only.*

W. Mizon, 180 Hanna-street, South Melbourne, Vic., engineer.

"A curative fabric."

Class 87.3.

2312. 12 Jan. E. N. Waters, 414–418 Collins-street, Melbourne, Vic. (*communicatee of* Curtis's and Harvey Ld., 3 Gracechurch-street, London, Eng., explosive manufacturers, *assignees of* A. F. Hargreaves, *act. inv.*, Roslin, Midlothian, Scot., gunpowder manufacturer.

Safety blasting powder, with starch and wax for coal mining.

Class 89.8.

The explosive is manufactured in two stages for which separate mixtures are prepared and ultimately combined in the proportion of 85 parts of the first to 15 parts of the second mixture.

First mixture—75 per cent. nitre, 22½ per cent. charcoal, and 2½ per cent. sulphur.

Second mixture—23 per cent. paraffin, sterine, palm oil, &c., with 77 per cent. starch.

5 *typed pages*, 5 *claims. No drawings.*

2313. 12 Jan. *Prov. only.*

E. J. Nowland, 50 Orphington-street, Ashfield, N.S.W., coachpainter.

"An improved plane table usable also as a theodolite and sextant and level."

Class 00.4.

2314. 12 Jan. *Comp. refused.*

E. Round, Great George-street, Paddington, Brisbane, Q'ld., chainmaker and blacksmith.

"Axle and spokes welded to form one piece, tyres riveted to spokes for small or large handcarts."

Class 97.2.

2315. 13 Jan. *C.a.P.* 2 Oct. S. Priest (*jun.*), Rooke-street, West Devonport, Tas., architect.

Wire-net bond for cavity walls.

Classes 58.4; 81.1.

The bond or tie, Fig. 1, has longitudinal wires **2** and **3**, connected like a ladder by transverse wires **4** and **5**, which are twisted around the longitudinal wire for a certain distance, and carried across the space intervening between the longitudinal wires so that they cross one another at an angle over the cavity.

Fig.1.

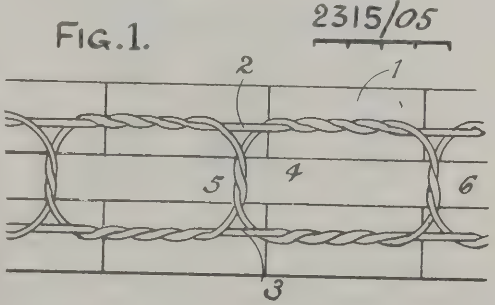
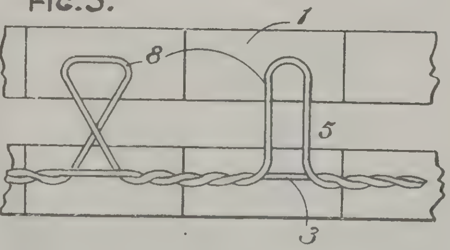


Fig.3.



When only one longitudinal wire is used, Fig. 3, the transverse wire is twisted around the longitudinal wire **3** for any suitable distance, and then formed into a loop **5** or **8** of any size and shape, so that it projects at a right angle to the longitudinal wire **3**.

Prov. 3 *typed pages;* 1 *fol. drg.,* 2 *figs.*
Comp. 5 *typed pages,* 3 *claims;* 1 *fol. drg.,* 4 *figs.*

2316. 13 Jan. *Prov.-only.*

J. E. Lock, Fourth-street, Bowden, S.A., gunsmith.

"An improved spring screw wind bar."

Class 89.5.

2317. 13 Jan. *C.a.P.* 4 Sept.
E. S. Schroeder, Woodville-road, Woodville, S.A., teacher.

Stump-jack, portable wheel-and-axle with tackle.

Classes 30.2; 59.1.

The travelling wheels **B** have one or more lever wheels **C** secured upon the axle **A**, on which a chain **E** with gripping claws **F** is wound.

2317/05

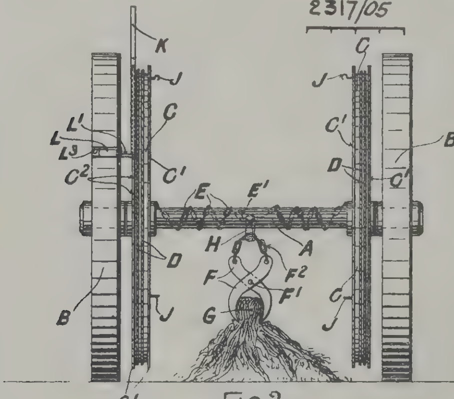


FIG.2.

The lever wheels **C** are actuated by means of wire ropes **D** passing around the grooved circumference and hauled by the team or by a ratchet lever **K** and pawl **M** engaging teeth **C2** in the rims.

Prov. 4 *typed pages, no claims.*
Comp. 11 *typed pages,* 13 *claims;* 2 *fols. drgs.,* 8 *figs.*

2318. 13 Feb. F. Lyst, 54 Ommaney-road, New Cross, London S.E., Eng., engineer.

Spring cylinder ends for explosion engines.

Classes 62.5; 66.2; 92.2.

To equalize the average pressure in an explosive motor, the closed end of the cylinder is fitted with a piston **b** supported by an air cushion with water packing as at **d** in Fig. 1, or by metallic springs as in other figures. The piston **b** suddenly moves back at the explosion, and its return by the spring pressure tends to equalize the working pressure on the motor piston **c**. The application to a six-cylinder marine engine is illustrated.

2318/05

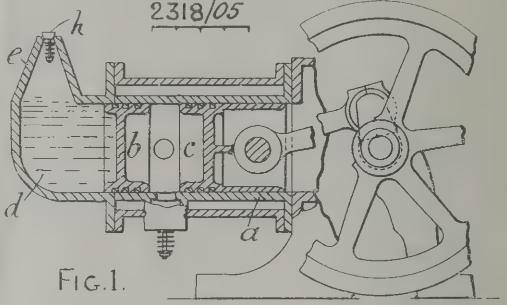


FIG.1.

5 *typed pages,* 5 *claims;* 2 *fols. drgs,* 4 *figs*

2319. 13 Jan. *Comp. refused.*

A. C. Atcheson, Karridale, W.A., photographer.

"A coupling for tramway and railway carriages and trucks."

Class 96.3.

2320. 14 Jan. *Prov.-only.*

H. S. Benjamin, Ash street, Sydney, N.S.W., merchant (*communicatee of* G. Williams, *act. inv.*, York, Penn., U.S.A.).

"An improved opener for canisters."

Class 57.5.

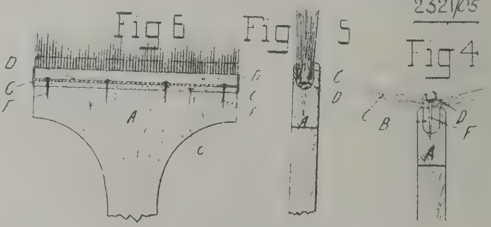
2321. 14 Jan. *C.a.P.* 17 Aug. O. M. J. Olsen, Church-street, Parramatta, N.S.W., builder.

Wedging bristles in brush stocks.

Class 25.8.

A shank **A** has grooves **B** running transversely or longitudinally which are adapted to receive fibres, bristles, or the like **C**. The fibres are kept in position by means of self

2321/05



securing metal tubes, twisted wire, or a wooden rod **D**, having holes **E** for the nails **F** by which it is secured to the shank.

Prov. 2 *typed pages.*
Comp. 4 *typed pages,* 4 *claims* ; 1 *fol. drg.,* 8 *figs.*

2322. 16 Jan. *C.a.P.* 18 Apr.

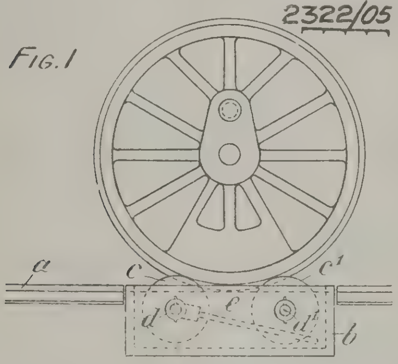
A. J. C. Hugo, 167 Forrest-street, Kalgoorlie, W.A., mechanical engineer.

Locomotive valve-setting machine and pit.

Classes 64.5; 95.1; 98.8.

The rails on each side of an engine pit have gaps in which troughs **b** carry a pair of rollers, one roller on each side being fixed to a cross shaft **d**, which can be rotated by a ratchet lever **e**, to place the cranks and valve motion in any desired position.

Fig. 1



Prov. 2 *MS. pages.*
Comp. 4 *typed pages,* 1 *claim* ; 1 *fol. drg.,* 3 *figs.*

2323. 16 Jan. *Comp. withdrawn.*

A. A. Ellisdon, 117 Pitt-street, Sydney, N.S.W., importer.

"The Ellisdon electric belt."

Class 87.8.

2324. 16 Jan. *C.a.P.* 6 Sept.

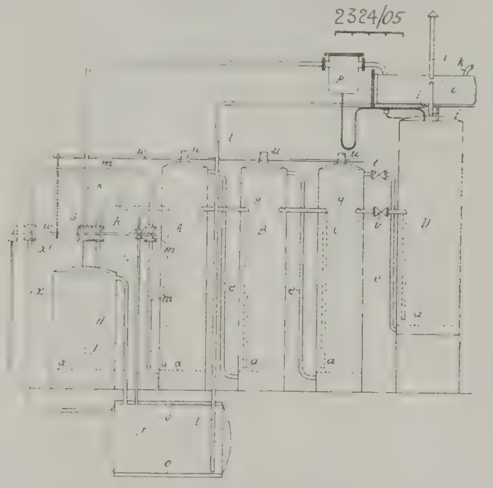
J. C. Stead, 42 Grove Green-road, Leytonstone, London N.E., Eng., technical chemist.

Carbonic acid gas from furnace gases.

Classes 08.4; 21.5; 27.3.

The process consists in passing the furnace gases containing CO_2 through a series of chambers **A**, **B**, **C**, **D**, connected by siphons containing alkaline lye capable of absorbing CO_2 under pressure at moderate temperature, and giving it off when boiled.

When the lye is thoroughly bicarbonated, the contents of the first chamber is drawn off into a lye-heating chamber **H**, and thence into a boiling-off vessel **J** heated by a steam jacket **O**. The CO_2 is driven off from this vessel through the lye-heating chamber **H**, and passes on through the pipe **k**, catch-all **p**, and condenser **r**, to the gasholder (not shown). The valves are coupled by gearing to act in the desired sequence from one operating point.



Prov. 7 *typed pages.*
Comp. 9 *typed pages,* 4 *claims* ; 1 *fol. drg.,* 1 *fig.*

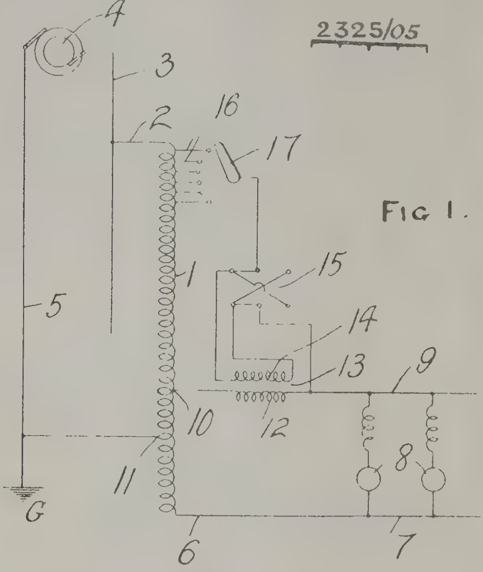
2325. 16 Jan. E. Phillips, 533 Collins-street, Melbourne, Vict., patent attorney (*communicatee of* P. M. Lincoln, *act. inv.*, 6830 Thomas street, Pittsburg, Penn., U.S.A., electrical engineer).

Reducing insulation-stress in distributing alternate currents.

Classes 02.4; 02.6; 03.8.

In operating a-c-commutator motors, &c., the voltage between the grounded conductor from the source of energy and the respective terminals of translating devices, is kept within safe limits by connecting the generator **4** to the lead **8** through transforming devices **1** and **13**. The lead **5** of the generator **4** is connected to earth as shown.

In the example illustrated the voltage between any one terminal of the devices **8** (being supplied with energy) and the earth does not exceed half that between the leads **7** and **9**.



4 pages letterpress, 2 claims ; 1 drg., 1 fig.

2326. 16 Jan. S. GIRONCOLI, Tanzenberg, near Maria Saal, Carinthia, Austria, gentleman.

Application under Sec. 7, patented in—
W. A. ... 2760 ... 6th November, 1899.

Treating meat with formaldehyde prior to cooking.

Class 35.3.

The meat is subjected to gaseous formic aldehyde in a closed chamber, and is then cooked by boiling, roasting, &c., when the heat expels all the formic aldehyde gas. The cooked meat is packed in tins, filled with fat, and sealed.

2 typed pages, 1 claim. No drawing.

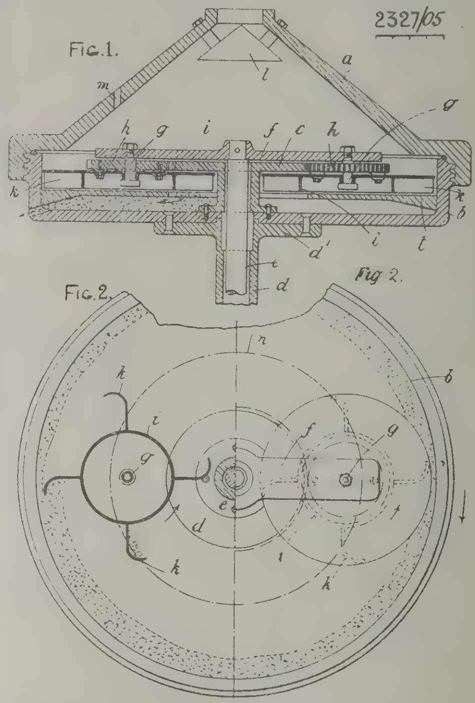
2327. 16 Jan. AKTIEBOLAGET SEPARATOR (*corp.*), manufacturers, *assignees of* A. J. ERICSSON, *act. inv.*, engineer (both of 8 Fleminggatan, Stockholm, Sweden).

Centrifugal scraping-separator ; rotary train arm rakes.

Classes 11.6 ; 60.4.

In centrifugal separators for solid particles suspended in liquids it is necessary to facilitate the radial motion of the solid ingredients (which become stratified concentrically around the rotating bowl) through the layer of liquid to a point near the centre from which the ingredients may be continuously delivered.

One or more rotating scrapers **i**, **k**, are mounted on spindles **g** driven by planet gear from the central axes ; the scrapers are about half the diameter of the bowl and continuously remove the solid particles from the periphery to the central delivery aperture.



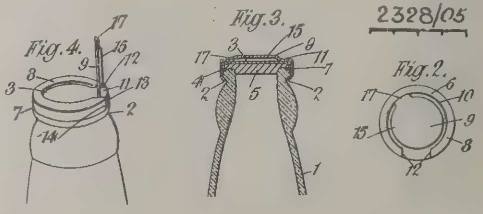
8 typed pages, 4 claims ; 1 fol. drg., 2 figs.

2328. 16 Jan. E. NORTON, 1110 Hanover Bank Building, New York, U.S.A., manufacturer.

Bottle capsule with tearing device.

Class 57.5.

The cork disc **5** lies above the bottle mouth, is covered by a cap-plate **3**, and held down by a metal capsule **4** compressed around the bead **2** on the neck. The central part **9** of the capsule, although formed integrally with the rim



7, is outlined by a scored line of weakness extending also down the flange **14**, and has a projecting part **17** by which the weakened centre may be lifted and used for tearing the rim at **14**, so as to liberate the plate **3** and disc **5**.

7 *typed pages*, 5 *claims;* 1 *fol. drg.*, 5 *figs.*

2329. 16 Jan. *Prov. only.*
B. M. Hocking, 49 Carlisle-street, Leichhardt, N.S.W., carpenter.

"An improved animal trap."

Class 38.6.

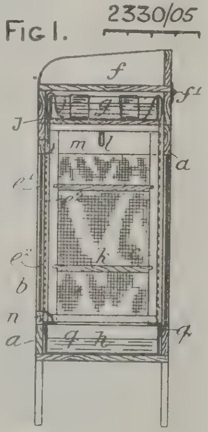
2330. 16 Jan. Maria and W. J. Thomas, Forbes, N.S.W. (*assignees of* A. W. Williamson, *act. inv.*, salesman, Forbes, N.S.W.).

Water cooled compound domestic jacketed meat safe.

Classes 29.3; 45.6.

The safe has double casing; the outside one **a** resembles an ordinary kitchen safe, the inside safe has a skeleton frame **c**, the panels being filled with canvas or flannel.

On top of the inner safe is a water tank **g**, into which flannel wicks **j** dip, and convey the water to the side panels; any surplus water that drips from the fabric is caught in the tray **h** below.



6 *typed pages*, 4 *claims;* 1 *fol. drg.*, 4 *figs.*

2331. 17 Jan. *Comp. abandoned.*

Dr. K. Kaiser, Berlin, 10 Meierottostrasse, Germany, professor of physiology.

"Manufacture of calcium nitride."

Classes 07.9; 08.2.

2332. 17 Jan. *Comp. abandoned.*

Dr. K. Kaiser, Berlin, 10 Meierottostrasse, Germany, professor of physiology.

"Improvements in process for extracting zinc from ores or the like."

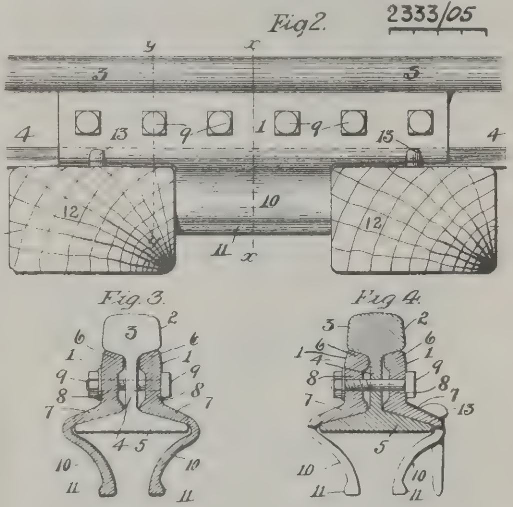
Classes 08.2; 15.6.

2333. 17 Jan. A. C. Shand, Bala, Montgomery, Penn., U.S.A., engineer.

Girder fish-plates for railways.

Class 98.1.

The lateral plates **6** are bent around the foot of the rail **5** and continued below with an inward curve **10** and a lower bulb **11** to give increased stiffness.



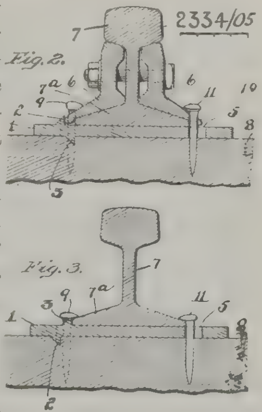
6 *typed pages*, 2 *claims;* 1 *fol. drg.*, 4 *figs.*

2334. 17 Jan. A. C. Shand, Bala, Montgomery, Penn., U.S.A., engineer.

Reversible seat-plate for wood sleepers.

Class 98.4.

Seat plates for use either at rail joints or at intermediate positions, are cut from rolled steel having longitudinal ribs **2**, **3**; the ribs respectively are imbedded in the wood at the lower face, and stand up above to form a guide for the rail flange **7a**; the upper and lower ribs are set at varying distances from the centre line so that the plate may be turned over for use with rails or fish joints of different sizes. The spike holes partly cut away the ribs.



8 *typed pages*, 3 *claims;* 1 *fol. drg.*, 3 *figs.*

2335. 17 Jan. *C.a.P.* 3 Oct.

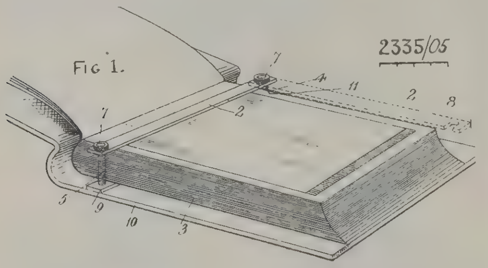
J. E. Norman, 27 St. Stephen's-road, Leicester, Eng., manager.

Paper and carbon-sheet holder for manifolding books.

Classes 48.8; 51.6.

A metal bar **2** is tightened down on the paper sheet and carbon over a page of the record book **3**; studs **4** and **5** are secured to the lower cover of the record book, and passed through the bar **2** and secured by milled nuts **7**. One end **8** of bar is slotted to facilitate removal; the other end is supported by a spring **11**. A hinge in the bar **5** may be added near the swinging end.

Fig 1.



Prov. 2 *typed pages.*
Comp. 5 *typed pages,* 4 *claims;* 1 *fol. drg.,* 6 *figs.*

2336. 17 Jan. The Hall Signal Co., 25 Broad-street, Manhattan, New York, U.S.A., signal manufacturers (*assignees of* C. J. Coleman, *act. inv.*, Rockaway, Morris, N.J., U.S.A., engineer).

Motor-operated railway signals; thermopile with oil vaporizing burner.

Classes 00.7; 02.3; 07.4; 23.3; 99.2.

Electric energy is continuously generated by a thermopile **43** charging accumulators **15, 16**, which operate the signal motors intermittently; modifications are proposed using compressed air or chemical engines.

The thermopile has bird-fountain **26**, which maintains a constant level in the burner **33**. The air for combustion, drawn in at the cowl **36**, passes through the tube **37**; the flame heats the inner junctions of the thermopile **43** and also prevents the machine freezing, by circulating water from the jacket **25** to the water tank **22**.

The thermopile, Fig. 2, has annular discs **50, 51**, alternately connected by ribs on the inner and outer peripheries, with insulating discs or washers **53** clamped between end plates **46, 47**, which are fixed by insulated screws **48** to the jacket cylinders **54, 55**. The thermopile charges the batteries **15, 16** in series, the battery **15** being used to drive the motor, and **16** for connexions through the permanent way.

Fig. 1

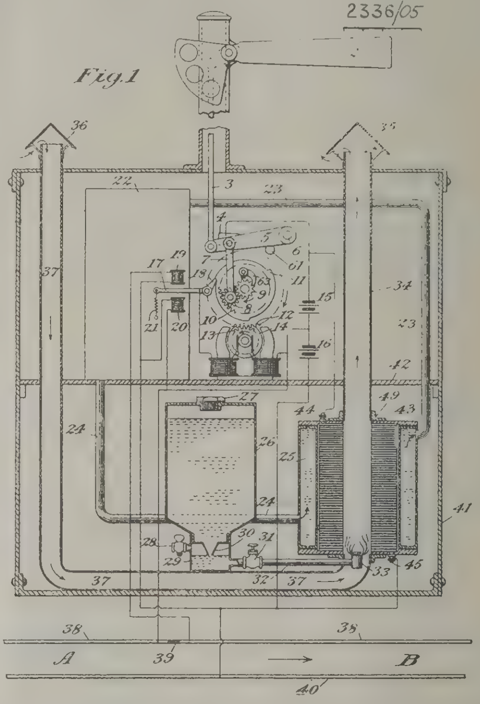
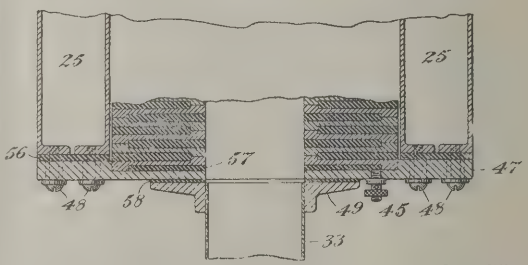


FIG. 2.



The rail **38** is divided by insulating-pieces **39** into sections **A**, **B** near each signal; the other rail **40** is continuous. The battery **16** is connected to the rails **38, 40** of the rear section **A**. The magnet **20** is connected across the same rails, as is also a magnet corresponding to **19** in the signal-gear at the other end of the section **A**. The magnet **19** is connected across the rails of the advance section **B**, and is energized by the battery corresponding to **16** in the signal apparatus at the advance end of that section. Normally, the lever **17** with the pawl **18** is held out of contact with the escapement **11**. A train entering section **A** short-circuits the coil **20** leaving **19** energized, which lifts the lever **17** (which is normally depressed), bringing the pawl **18** into contact with the gearing **11** to **8**, thus completing the motor circuit from the battery **15** through the contact plate **4**. The motor turns in the direction of the arrow, and drives the planet wheel **8** against the reaction of the locked ratchet wheel **11**, and so actuates the signal. When the bar **5** is pushed beyond the contact plate **4**, the motor circuit is broken, and the motor stops. If both sections **A**, **B** are unoccupied the two coils **19**, **20** are energized, and the signal remains at "danger" or is brought to that position. If a train is on section **A** and section **B** is clear, the signal is set at "clear." If then, a train backs on to section **B**, the coil **19** is de-energized. This releases the lever **17**, which removes the pawl **18** from the escapement **11**, and, the wheel **10** being held by the detent **63**, the weights on the signal lever cause the planet wheel **8** to move downward and also set the signal at "danger."

19 *typed pages*, 21 *claims* ; 2 *fol. drgs.*, 2 *figs.*

2337. 17 Jan. E. Phillips, 533 Collins-street, Melbourne, Vic., patent attorney (*communicatee of* The Antifriction Journal Box Co., manufacturers, *assignees of* D. Allen, *act. inv.*, both of 718 East First-street, Los Angelos, Cal., U.S.A.).

Removable roller bearings for vehicles.
Classes 60.8 ; 93.3.

This roller bearing is self-contained, and may be readily removed from or replaced on the axle. A loose sleeve **3** fits over the axle **2**, and has a short key **4** ; this forms the roller track, and may be drawn off along with the whole of the loose parts, after removing the outer lock nuts **33** and **34**. Separating rollers **7**, have collared ends **13** which lock-in and are guided by grooved collars **8**, **9**, and encircling rings **20**, **21** lie between the main rollers **6** ; a guide-rib **24**, around the sleeve **3**, engages grooves in the main rollers **6** and prevents end motion. End caps **14**, **15** are screwed on to the outer member **1**, and to these end caps are fixed the collars **8**, **9**, respectively, by screws **17**. Other caps **27** contain dust-packing **26**, and the caps **14**, **15** have shallow recesses **29**, with thrust washers.

Fig.3.

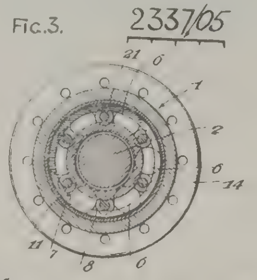
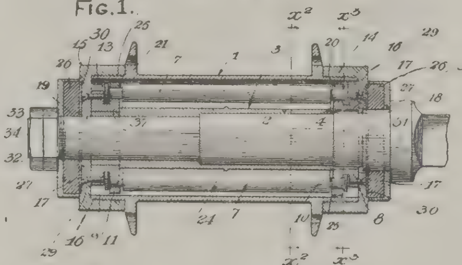


Fig.1.



8 *typed pages*, 8 *claims* ; 1 *fol. drg.*, 7 *figs.*

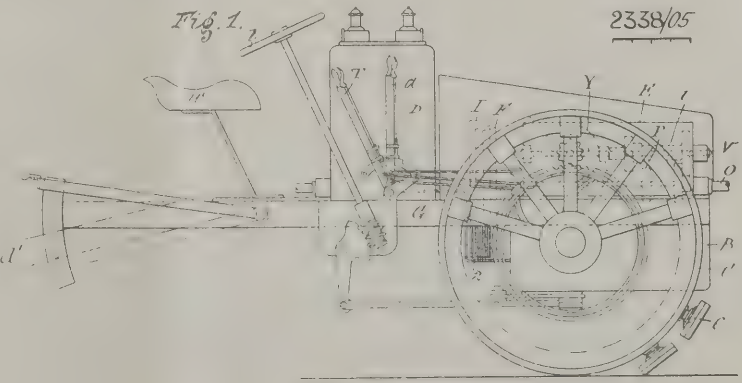
2338. 17 Jan. *C.a.P.* 28 June. H. P. Saunderson, Elstow Works, Bedford, Eng., engineer. (3 *pages closely printed*, 3 *folios drgs.*)

Two-wheeled traction motor ; footed-wheels, and other details.

Classes 93.5 ; 95.5.

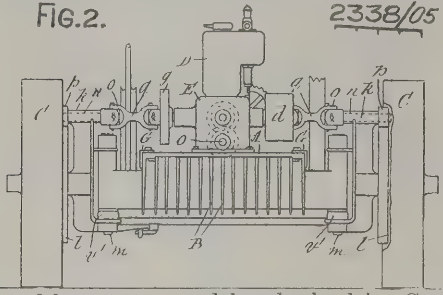
A water tank **A** with radiating webs **B** forms a base for a variable speed gear box **E** and a motor engine **D** whose cooling water returns to the tank through a coil surrounding the fly-wheel **I**, within which is a clutch **F** fitted with a fan.

Fig. 1.



Wheels **C** having pad-feet **6** are mounted on castings **k** pivoted at **m** to the base **A** and steered by a worm and hand wheel **t**. Springs **v1** check vibration, and motion is transmitted to the wheels by pinions **P** on the driving shaft **n**, having universal joints **q** above the pivots **m**.

FIG.2.



A pole **d1** of an agricultural implement may be attached to either of several holes along a transverse bar of a pivoted yoke, which can be adjusted vertically to holes in a quadrant, which may be fitted with a supporting wheel.

Prov. 4 *MS. pages.*

Comp. 3 *printed pages,* 8 *claims;* 3 *fol. drgs.,* 3 *figs.*

2339. 17 Jan. *C.a.P.* 3 Oct. W. H. Lomas, 60 Height-street, Doornfontein, Johannesburg, Transvaal, S.Af., mechanical engineer.

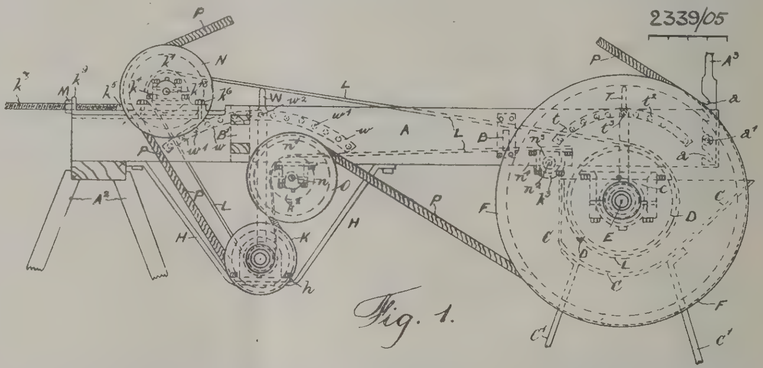
Suction band filter for ore-slimes.

Classes 14.7; 28.2.

A suction drum **D** has a hollow cylinder **d1** with packed trunnions and end discs **d** secured by screws **d2**. Longitudinal grooves **d3** in the periphery of the drum **D** have holes **d4** which communicate with the interior.

The trunnion **E**, Fig. 5, is a long fixed pipe, closed at one end by a detachable cap and connected to a vacuum pump at the other end. A number of pipes **V** pass through the pipe **E** and have upturned ends in the interior of the drum **D** to draw off the air.

The pipe **E** has a downwardly projecting branch **V** reaching nearly to the bottom of the drum to remove the filtered liquid. A curved screen plate **R** is fitted inside the drum **D** to close that portion of the drum not covered by the belt **L** against the ingress or egress of air or liquid.



The trough **C**, Fig. 1, containing the slimes to be filtered is arranged so that the pipe **E** dips below the level of the liquid and the greater portion of the drum **D** rotates beneath the surface of the slimes.

The pressure or cleaning drum **G** is constructed similarly to the drum **D**, with longitudinal perforated grooves, but is of smaller diameter and is rotated on a fixed pipe by the pulley **K** and rope **P**. The fixed pipe has longitudinal slots in its under surface opposite the perforated portion of the outer drum, and is supplied with air or liquid under pressure.

An endless porous belt **L** travels around the suction drum **D**, the pressure drum and guide rollers **k1**, **k2**, **k3** in order to cover as much as possible of the circumference of the drum **D**.

A partial vacuum having been set up in the drum **D** the atmospheric air exerting pressure on the surface of the slimes or other material to be filtered contained within the trough **C** will force the liquid through the interstices of the belt **L**, and deposit solid matter on its surface. The filtered liquid passing the belt **L** and the holes **d4** will be extracted by the branch pipe **v**.

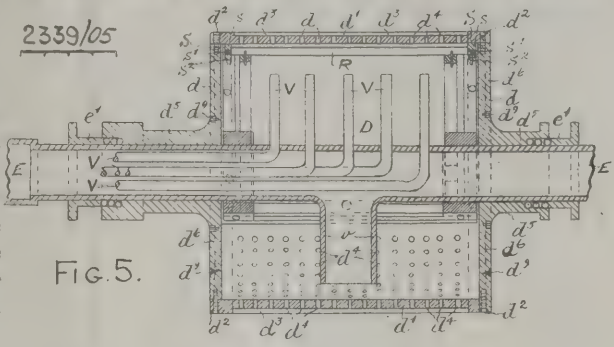


FIG. 5.

The belt **L** carries the deposited particles along on its surface over the guide roller **k1** and underneath the pressure drum **C**, the current from the lower side of which dislodges the cake of solid matter from the surface of the belt **L**. This caked material may be collected in a vehicle of any suitable construction.

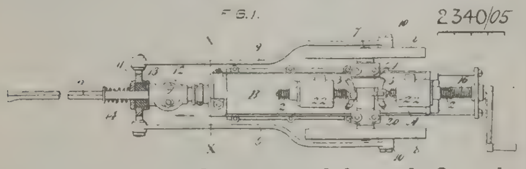
18 *typed pages*, 9 *claims*; 5 *fols. drgs.*, 10 *figs.*

2340. 17 Jan. W. Brady, 1127 Folsom-street, San Francisco, Cal., U.S.A., miner.

Rock drill with two-cycle gas motor.
Classes 66.2; 85.5.

A percussive rock-drill, hammer, or the like has two aligned cylinders **A**, **B** with a common piston-rod, operating as four-stroke-cycle internal-combustion motors, the out-stroke of the piston being effected by alternate explosions in the two cylinders, and the return stroke by means of a crosshead **11** (which may slide on the drill shank) linked to crank pins on two fly-wheels on the valve shaft **7**.

The cylinders have a common piston-rod **4**, an extension of which has a chuck **12** for the drill **6**. The shaft **7** journalled in the frame carries fly-wheels **8** connected by rods **9** to the crosshead **11** on the drill **6**, by a spring **14** and a cushion **13** to minimize shock.



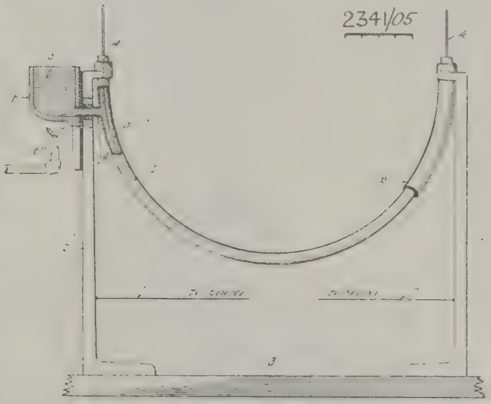
The exhaust valves **3** are actuated by means of a cam **20** and levers **22**, driven by a planet gear. The drill is rotated by screw and ratchet during the in-stroke, and fed by a screw **16**.

5 *typed pages*, 2 *claims*; 1 *fol. drg.*, 4 *figs.*

2341. 17 Jan. G. A. Goodson, 610 Boston Block, Minneapolis, Minn., U.S.A. electrician.

Galvanizing wire in electrically connected tubular bath.
Class 73.1.

The wire **4** is drawn through an upwardly bent pipe **1** filled with molten metal **5**, the wire and molten metal being connected in series to an electric current. Other apparatus may be used.



10 *typed pages*, 2 *claims*; 1 *fol. drg.*, 1 *fig.*

2342. 17 Jan. F. E. Keyes, 20 Broad-street, New York, U.S.A., manufacturer.

Vacuum pulp felting machine; compartment and collapsible rolls.
Classes 48.1; 57.2; 74.4.

In felting pulp for boards, pipes, barrels, &c., a mould or forming-cylinder **25** transfers the pulp from a vat **31** to a couch-roll **21**, from which it passes to a large roll or cylinder **4** to be formed into a sheet or board, or to a collapsible tube **45** to be formed into a tube. The cylinders **21**, **25** have perforated surfaces connected with an exhausting apparatus, and are provided with internal radial partitions **28**. The spaces between the open ends and the vat are packed with rings of indiarubber, &c., and those compartments of the cylinders which are not covered with pulp are protected at the ends from the effect of the exhausting apparatus by adjustable segmental plates **20**, **20b**.

The cylinder **4**, on which the sheet or board is formed, is mounted, in open bearings, which can be raised and lowered by screws **5** and suitable gearing, so that, when the collapsible tube **45** is removed, the cylinder **4** may be lowered into contact with the couch-roll **21**, or raised as shown to allow of the insertion of the tube **45** or for the removal of the sheet or board from the cylinder. When in use, the axles of the cylinder **4** are pressed downward by the weighted levers **16**.

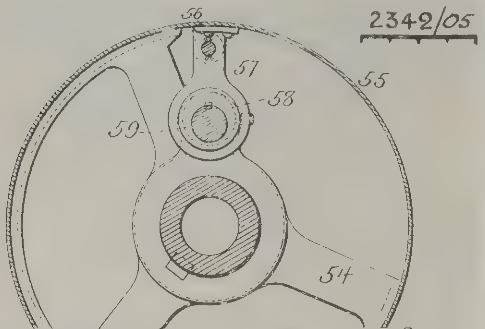


Fig 9.

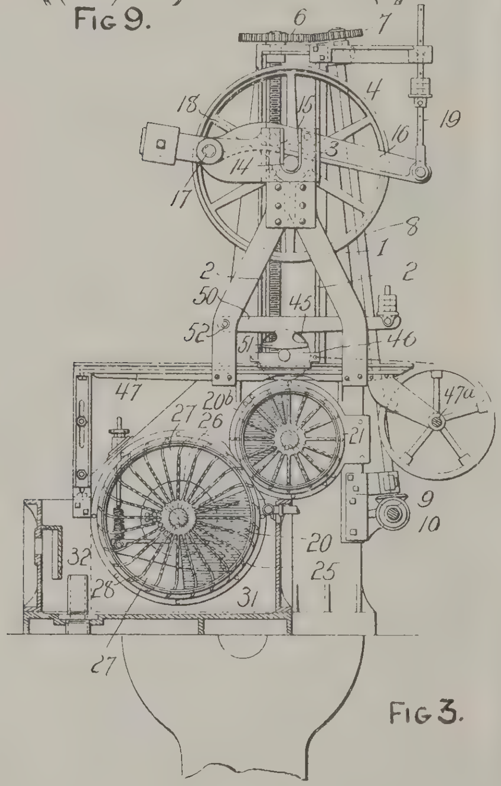


Fig 3.

The collapsible roll **45** is shown separately in Fig 9, and consists of a metallic shell **55**, split at **56**, and carried by segmental rings and spiders **54**, the free edge of the shell (which is unsupported by the segmental rims) being connected to arms **57** on eccentrics **58**; the free edge of the shell may be adjusted radially by a handle or key as desired.

The bearings of the roll are mounted to slide on horizontal rails **47**, held in the desired position above the couch-roll by a spring catch, and pressed downward by weighted levers **50**. The rails **47** are long enough to support an extra roll with its bearings, and the bearings of the two rollers are connected so that, when the roll which has been wound with pulp is drawn from the winding position by means of chains and wheels **48a**, operated by hand or otherwise, the second roll is brought into position for receiving the pulp, and the operation of the machine is practically continuous.

15 *typed pages*, 14 *claims*; 3 *fols. drgs.*, 11 *figs.*

2343. 17 Jan. Champion Seal Company, 310 Hudson-street, New York, U.S.A., manufacturers (*assignees of* E. D. Schmitt, *act. inv.*, 362 Union-street, Brooklyn, U.S.A., engineer.

Bottle sealing press; divided plunger.
Class 57.5.

Machines for inserting "seals" or closures of the kind shown in Fig. 9 have a plunger with a number of independent spring-controlled sectors, which adapts itself to variations or irregularities in the seat.

The plunger **15** of the sealing head **9** consists of a number of section **16**, Figs. 2 and 6, each mounted under control of a spiral spring **19** and a longer but weaker spring **20**. The springs are inserted in the recess **18** of the section, and the longer spring normally bears against the flange **21** of the retaining cap **22**.

Fig. 9.

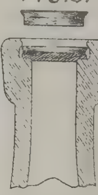
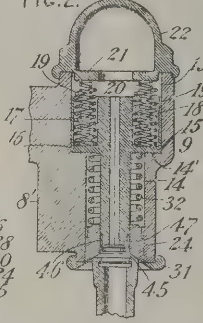


Fig. 2.



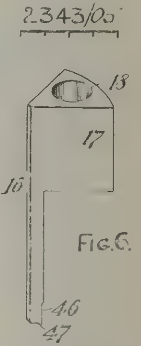
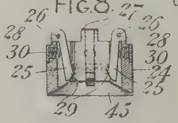


Fig. 6.

Fig. 8.



The plunger is controlled by the springs **20** during the first part of its movement, and these springs are reinforced by the springs **19** before the final action.

The lower end of the plunger is surrounded by a spiral spring **32**, which controls the "seal" holder **24**, Figs. 2 and 8, this holder being provided with a series of spring-controlled fingers or catches **25**, Fig. 8, for holding the "seal" until it is applied by the plunger. The lower end of each section of the plunger is reduced, as at **46**, Fig. 6, and is formed with a bead **47** at its outer edge, the beads of the several sections together forming the operative portion of the plunger, which does not bear on the central part of the closure in applying it to the bottle.

The sealing-head **9** is carried by a sliding vertical pillar connected to a treadle in the base of the frame, on which the usual bottle-rests are attached. The bottle-rest is spring-supported, with screw adjustments, and its vertical movement is limited by pin-and-slot connexions or other suitable devices.

As an alternative, the seating-head may be stationary, and the bottle-rest adapted to be moved up to it, or both parts may be movable towards each other.

10 *typed pages*, 6 *claims*; 1 *fol. drg.*, 9 *figs.*

2344. 18 Jan. *Prov. only.*

W. H. McCowan, 68 Albion-street, Brunswick, Vic., hatters' machinist.

"Fur dressing or plucking machine."

Classes 43.8; 47.2.

2345. 18 Jan. *Prov. only.*

W. T. Weekley, Dugan-street, Kalgoorlie, W.A., mine manager.

"Improvements in filter presses and mode of separating solution from slime and other metalliferous material, &c."

Classes 14.7; 28.1.

2346. 18 Jan. *Comp. lapsed.*

G. C. Schmidt, 16 Nordhemsgatan, Gothenburg, Sweden, sea captain.

"Improved apparatus for the launching of life-boats."

Classes 88.7; 91.4.

2347. 18 Jan. W. C. Forbes, s.s. "Edina," Queen's Wharf, Melbourne, Vic., master mariner.

Speed, course, and distance recorder for ships.

Classes 00.5; 56.6; 92.0.

In a development of Vic. 19,808/02, the passages admitting water from the bottom of the ship are modified. A tube **2**, having an inlet opening towards the bow of a ship, can be moved down the inlet tube **3**, and through a cock **7**, until it projects below the ship's bottom **5**, when the water will rush up and rotate the helical fan **1**, which is connected to the distance meter **24** by a rod and cords **19** suspended from a ball bearing at the top.

A cock **10** on the outlet branch, regulates the flow of water, and when the tube **2** is lifted both cocks may be closed, and to allow the rod **19** and tube **2** being lowered in correct position, guide ribs and sliding joints are provided between the tubes and rods.

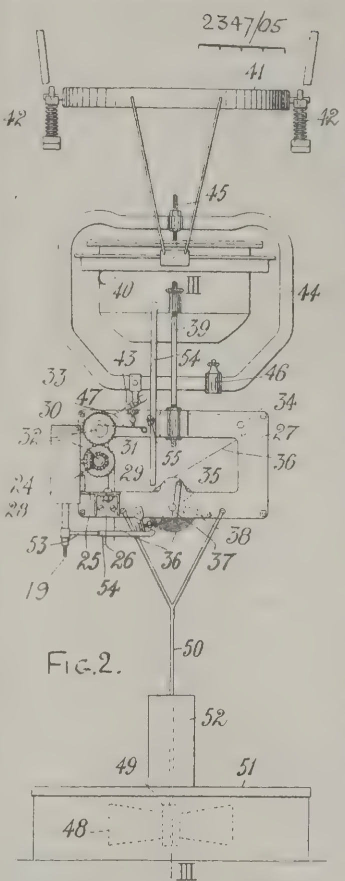


Fig. 2.

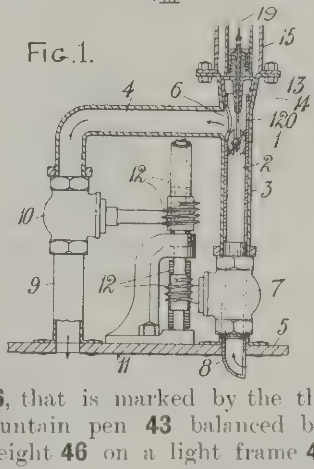


Fig. 1.

The distance meter **25** is geared to friction drums **29** and **30** between which passes a chart ribbon **36**, that is marked by the thread **47** from a fountain pen **43** balanced by an adjustable weight **46** on a light frame **44**, attached to a pin **45** on the compass card.

To keep the compass lively a lever tapper **54** (resting against the bowl **40**) is pivoted at **55**, its lower end being struck by an arm **53** on the rotating rod **19**; to check excessive oscillation a brake paddle **48** is suspended in a water tank **51**.

9 *typed pages*, 8 *claims*; 3 *fols. drys.*, 3 *figs.*

2348. 18 Jan. *Prov. only.*

J. J. Gilday, Berringa, Vic., miner.

"Improved automatic air-inlet device for vessels from which liquid is drawn."

Classes 74.8; 87.3.

2349. 18 Jan. *Prov. only.*

G. Hadfield, 187 Drummond-street, Carlton, Vic., assayer.

"Improvements in strainers for fencing and other wires."

Class 58.3.

2350. 19 Jan. *Prov. only.*

J. Peacock, Combogolong, Coonamble, N.S.W., grazier.

"Improved ear marking pliers."

Class 37.4.

2351. 19 Jan. V. F. Cole, *assignee*, Cole's Book Arcade, Bourke-street, Melbourne, Vic., bookseller, and J. O'Donnell, *act. inv.*, 301 Bourke-street, Melbourne, Vic., jeweller.

Vegetable slicer, for ribbed patterns.

Classes 10.7; 34.1.

A platform **a** with or without side supports **n** has a guide strip **o** and a corrugated knife **e** against which vegetables, &c., are forced by a slide block **i** having a wire guide frame **j**. One of several patterns for cutting slices ornamented by ribs on one or both sides is shown by Fig. 6.

2351/05

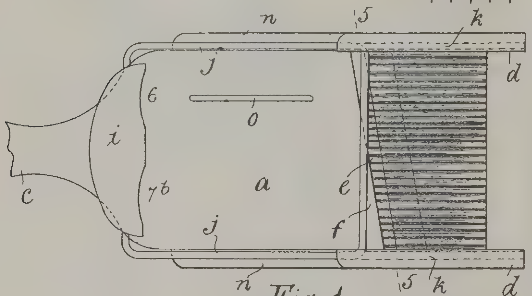


Fig. 1.

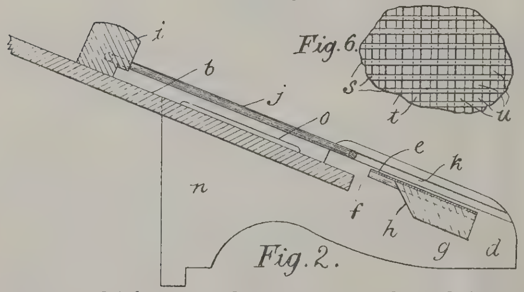


Fig. 6.

Fig. 2.

7 *typed pages*, 10 *claims*; 1 *fol. drg.*, 6 *figs.*

2352. 20 Jan. *Prov. only.*

W. M. Norrie, Auckland, N.Z., gasfitter.

"An improved machine for peeling potatoes and the like."

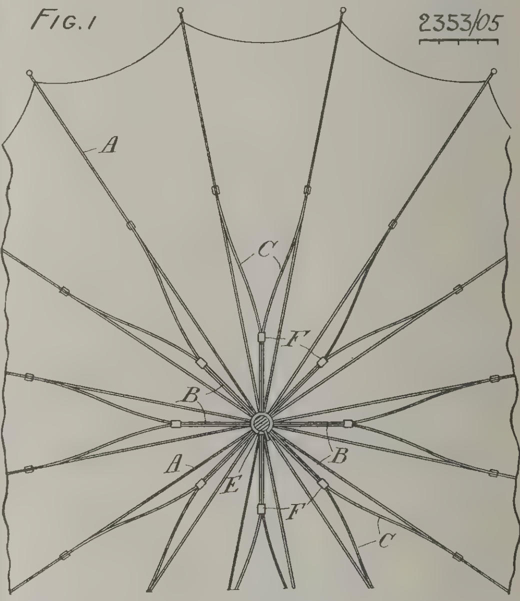
Class 34.1.

2353. 20 Jan. A. R. Grant, 477 Kent-street, Sydney, N.S.W., gentleman (*communicatee of* M. H. Barnett, *act. inv.*, 9 London Wall, London, Eng., manufacturer.

Umbrella frame.

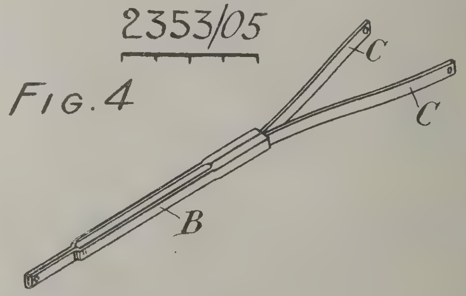
Class 44.8.

Fig. 1



In an umbrella frame having two ribs to each stretcher, the runner is connected to stretchers **B** divided into arms **C** each of which is pivoted to a rib **A**.

Fig. 4



Other modifications show two stretchers to each rib, also several methods of constructing partially divided ribs or stretchers.

Prov. 3 *typed pages.*

Comp. 4 *typed pages,* 2 *claims;* 3 *fols. drgs.,* 5 *figs.*

2354. 20 Jan. *C.a.P.* 17 March.

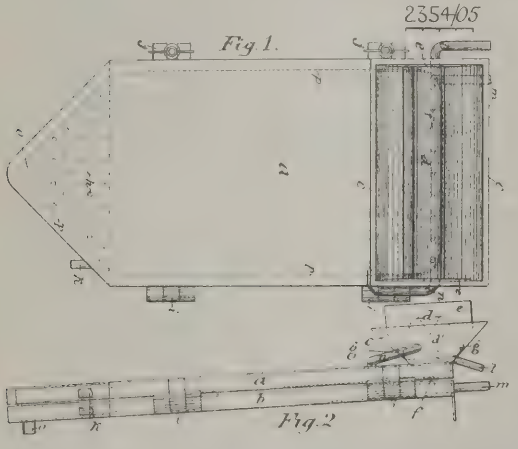
T. Carter, Mirboo North, Buln Buln, Vic., farmer,

Milk cooler, water jacketed trays.

Class 36.3.

Two superimposed, nearly horizontal, flat water-boxes forming jackets **a** and **b** have lateral hinges at **i**, **i**, and when closed are held together by clamp **j**, **j**. Small strips of india-rubber **p**, **p** are inserted in grooves at the edges of the water jackets to form a space between the water-boxes for the passage of cream.

A transverse trough **c** above the highest end of the top jacket has a closed water chamber **d** with a groove **dl** along its top into which the cream falls and overflows its sides into the trough **c**. It then passes through semicircular openings **g**, **g** on the bottom edges of the aerating water chamber **d**, and thence through the holes **f** in the top jacket **a**, entering the thin space bounded by the rubber strips. The apparatus is provided with inlet and outlet pipes **k**, **k** and **l**, **m** for the cooling water, which may be connected by rubber tubing to the water supply pipe.



The lower water jacket **b** extends further at its lower end than the top one **a**, and is brought to a point surrounding a descending vertical pipe **o** which is the outlet for the cream after passing through the thin cooling space. The upper plate of the top jacket **a** is extended to cover this lower part of jacket **b** and is perforated with holes **h** to admit air to the cream before passing away by the pipe **o**.

Prov. 2 *typed pages.*

Comp. 5 *typed pages,* 4 *claims;* 1 *fol. drg.,* 2 *figs.*

2355. 20 Jan. *Prov. only.*

R. B. Smith, Beverley Park, Beverley, W.A., agricultural machinist.

> "A new and improved spark arrester to prevent the emission of sparks from locomotives or other engines."

Class 17.8.

2356. 20 Jan. *Prov. only.*

H. A. Stuart, Akroyd Buildings, Melbourne-road, Perth, W.A., mechanical engineer.

> "Improved means to compress combustible or explosive mixtures before ignition for use in engines, turbines, or the like."

Classes 63.1; 66.2.

2357. 20 Jan. C. H. Huff, *act. inv.*, 105 Federal-street, Boston, Mass., U.S.A., financier (*assignee of* G. W. Pickard and P. H. Wynne, *act. invs.*, electricians, both of 105 Federal-street, Boston, Mass., U.S.A.)

Electrostatic dry separation of ores.

Classes 02.9; 11.7.

A rapidly alternating potential, characterized by the intermission of relatively long periods of feeble or no excitation, is applied to the electrodes, producing a series of brief and emphatic charges to separate particles of different conductivities.

A large cylindrical electrode **E**, Fig. 3, has a conducting-surface rotating opposite a smaller electrode **E1** formed of a copper wire enclosed in a shellac-coated glass tube **E2**; the gap may be adjusted by slots **e5**, in radial arms **E3**. The gap is adjustably divided by a partition **D** of glass, hard rubber, &c. The ore hopper **H** has an adjustable delivery slot **H1** and agitating paddles **A1**.

Particles of greater conductivity falling on the rotary electrode **E** are repelled, and pass in their trajectory **M1**, over the partition **D** into the neighbourhood of the electrode **E1**, and fall into a receptacle **R**. The particles of lesser conductivity are repelled in an inferior trajectory **M2**, strike against **D** and fall into a receptacle **R1**. Any particles sticking to the electrode **E** are removed by a rotary brush **C**, and may be separately collected.

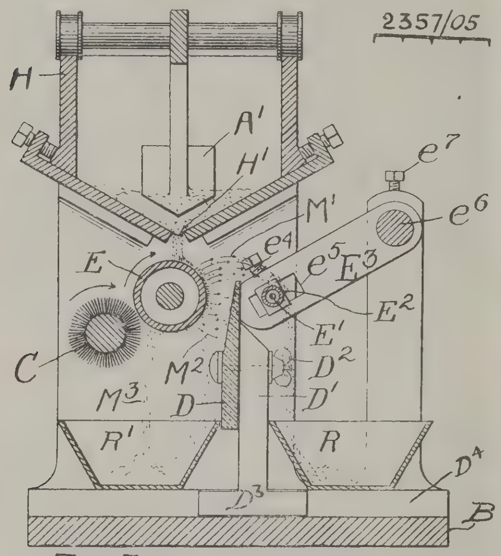
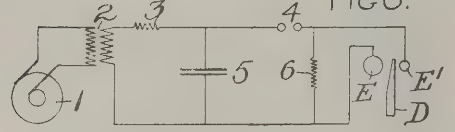


FIG 3.

FIG6.



The alternating potential may be obtained by means of a dynamo **1** and step-up transformer **2**, Fig. 6; a resistance **3** is used to damp oscillatory effects; a condenser **5**, a non-inductive resistance **6** in parallel, and a spark gap **4** are set to break at a desired potential. When the spark gap breaks, the electrodes are instantly charged, but, being shunted by the resistance **6**, are rapidly reduced to zero potential, thus obtaining the relatively long period of no excitation. When potentials of one sign only are desired at the electrodes a suitable rectifier may be used.

Comp. 9 typed pages, 13 claims; 2 fols. drgs., 10 figs.

2358. 20 Jan. *Prov. only.*

L. J. RATH and A. P. RATH, 398 King-street, Newtown, Sydney, N.S.W., coachbuilders.

"Improvements in poisoned pollard or bait distributors."

Class 38.9.

2359. 21 Jan.

J. RYAN, Jeetho, Vic., engineer.

Pneumatic hub for spider wheels.

Class 97.8.

The hub frame is loose upon the axle, and is supported by the annular air tube **K**; at each side are lateral side plates **M** and **O** connected by flanges **I** to a hub ring **C**, inside of which is a wooden air tube bed **E**, another bed **K** being attached to the hub **C**. Openings in the side plates allow of radial vibration.

A modification shows varied attachment to the axle. Two or more air tubes may be used instead of the single tube **R**.

7 typed pages, 2 claims; 1 fol. drg., 3 figs.

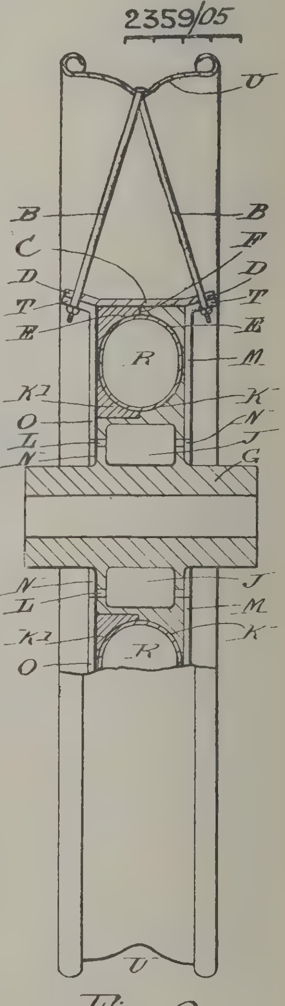


Fig. 2.

2360. 21 Jan. *C.a.P.* 18 Oct.

J. Tagell, Bayview-road, Burwood, Vic., engineer.

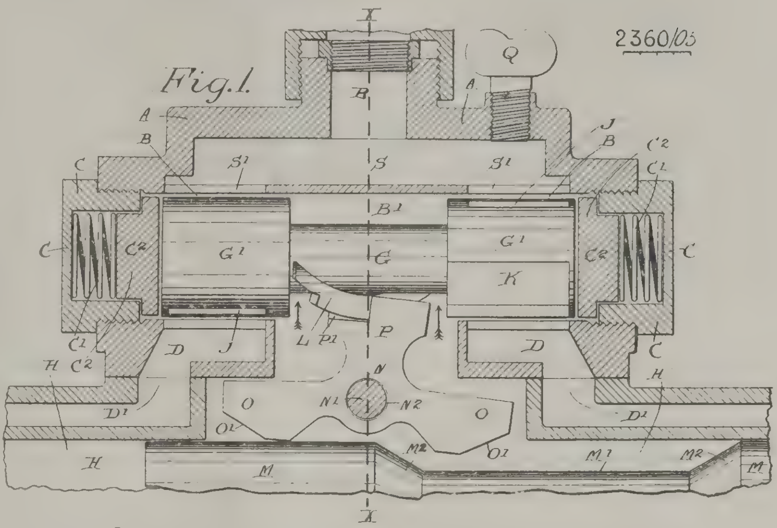
Rocking tappet-valve for reciprocating motors.

Class 65.9.

The rocking valve **G** has enlarged ends **G1** and **G2** containing the inlet and exhaust ports **J** and **K** which register with ports **D** in the cylinder **H**.

A rocking lever **O** has end cams **O1** and **O2** actuated by shoulders **M2** on the piston **M**; projection **P** which engages a helical rib **L** on **G** imparts the rocking motion.

The valve **G** is maintained in a normally central position by spiral springs **C1** placed in the end caps **C**.



Prov. 4 *typed pages.*
Comp. 9 *typed pages,* 4 *claims;* 3 *fols. drys.,* 4 *figs.*

2361. 21 Jan. *Prov. only.*

H. Park, *act. inv.*, Sydney, N.S.W., engineer; H. R. Butterworth, *act. inv.*, Dunedin, N.Z., engineer; and A. H. Poole, *assignee*, Sydney, N.S.W., engineer,

"Improved dredge bucket."

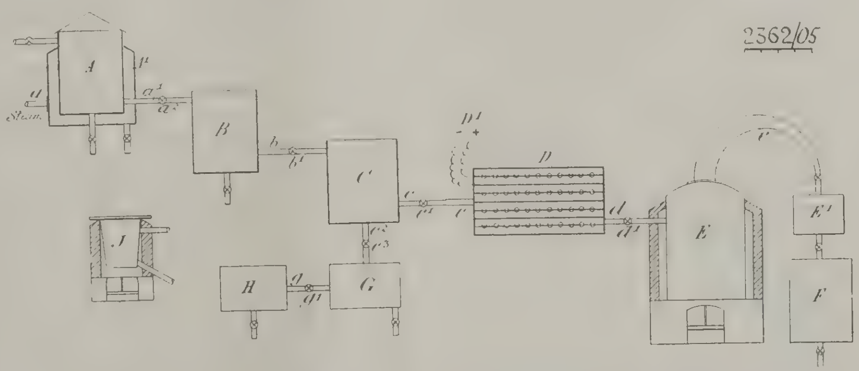
Class 84.6.

2362. 23 Jan. L. Koledas, *act. inv.*, 4 Summer Hill-street, Petersham, N.S.W., mineralogist, and A. F. Kent, *assignee*, Rockhampton, Qld., commission agent.

Leaching complex sulphide ores by nitric acid.

Classes 07.6; 14.1; 14.4.

Powdered ore is treated with hot nitric acid (1 of acid to 3 of water) in an aluminium or earthenware tank **A**, and the insoluble residue, including gold, is allowed to settle. The slimes are run off into a lower tank **B**, and allowed to remain till the liquor is clarified. The clear solution flows into the tank **C**, and is treated with salt to precipitate silver, lead, and antimony. It is then run into an electrolytic tank **D** to separate copper, and afterwards into a still **E** to recover the nitric acid, the zinc being left as a residue. The silver is separated from lead and antimony by cyaniding, and lead and antimony from each other by smelting.



6 typed pages, 1 *claim;* 1 *fol. dry.,* 1 *fig.*

2363. 23 Jan. *Prov. only.*

R. H. Ellis, 64 Gore-street, Fitzroy, Vic., box maker.

"Improvements in butter boxes."

Class 57.2.

2364. 23 Jan. *C.a.P.* 3 July. F. Marsh, Albert-street, West Maitland, N.S.W., decorator.

Washing and amalgamating beach sands, &c.

Classes 11.4; 13.4.

The hopper **h** feeds the sands or tailings on an endless rubber band **e** (travelling on two round rollers **a**, **a** and two octagonal rollers **b**, **b**) which passes below copper toothed harrows **f**; water falls from an oblong wooden frame **m** containing taps **v**. The sand falls from the belt on a corrugated distributor **n** leading to stepped adjustable copper plates **p**. The machine is worked by handle and pitch-chain gear.

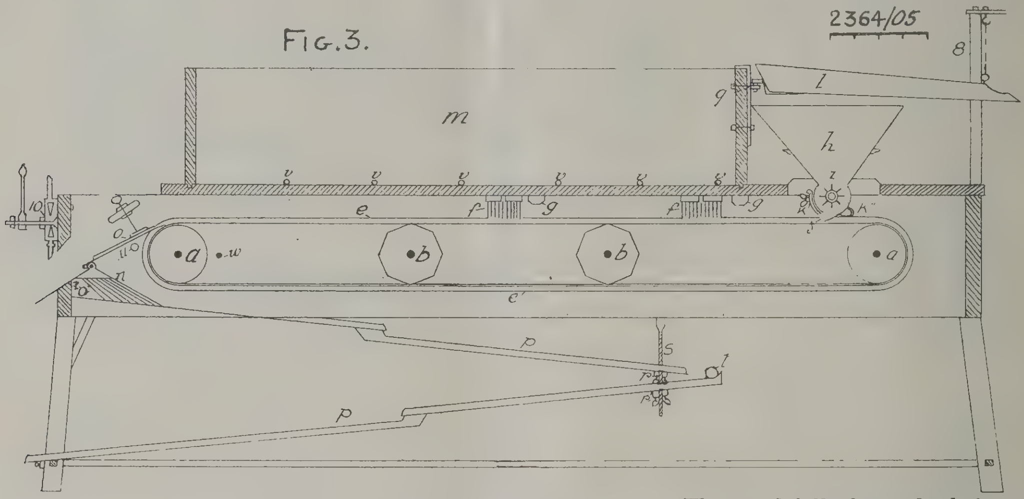


Fig. 3.

Prov. 5 *MS. pages.*
Comp. 6 *printed pages,* 4 *claims;* 4 *fols. drgs.,* 5 *figs.*

2365. 23 Jan. *C.a.P.* 2 Oct.

W. Dall, 49 Moray-place, Dunedin, N.Z., merchant.

Ballistic bowl-testing apparatus.

Class 53.2.

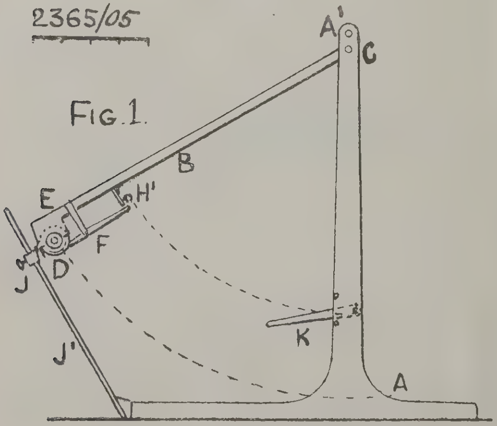


Fig. 1.

The bowl **D** is held in a gauge-chuck at the end of the pendulum **B**, by a lever **F** and trigger **H**. The angle of fall is adjusted by the trigger **J**, and the bowls are released at uniform velocity when the pendulum arrives at the vertical, by the roller **H1** rising on the cam **K**.

Prov. 3 *typed pages;* 1 *fol. drg.,* 3 *figs.*
Comp. 4 *typed pages;* 2 *claims.*

2366. 23 Jan. *C.a.p.* 14 Aug.

Barbara J. Mouat, South Dunedin, N.Z., postmistress.

Dampers for fire-bars of domestic grates.

Classes 17.1; 24.2.

A are the grate fire-bars. **B** is the damper for regulating the draft, and **C** the slide in which the damper works.

A loose perforated box or basket **A1** may be used to limit the size of the fire and its position on the grate.

2366/05

FIG. 1.

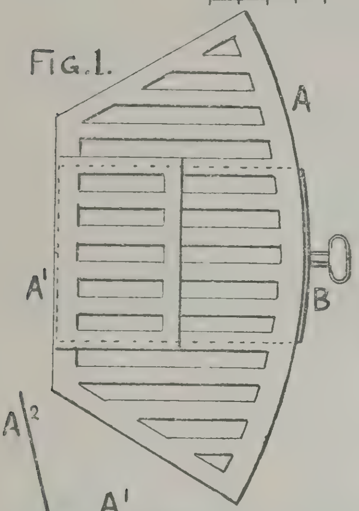
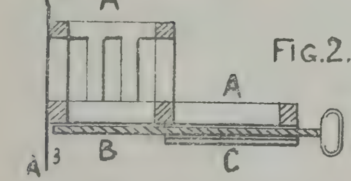


FIG. 2.



A modification describes a perforated damper with a regulating valve.

Prov. 2 *typed pages.*
Comp. 3 *typed pages,* 2 *claims;* 1 *fol. drg.,* 6 *figs.*

2367. 23 Jan. E. PHILLIPS, 533 Collins-street, Melbourne, Vic., patent attorney (*communicatee of* R. GREENE, Portland, King County, Washington, U.S.A., and L. C. DILLMAN, Seattle, King County, Washington, U.S.A., manufacturers, *assignees of* I. B. HAMMOND, *act. inv.*

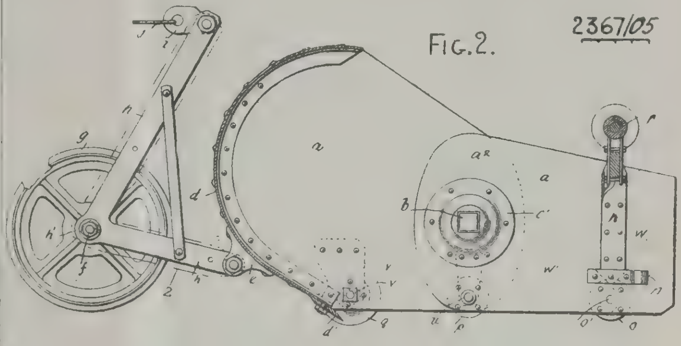
Two-rope scoop excavator, jointed body.

Class 84.3.

The frame of scraper has sides **a**, **a1** formed of two parts, jointed at **b** so that the front portions **a1** may accommodate themselves to irregularities of the surface without digging in.

The haulage rope is attached to the eyes **η**, and the backward rope **j** to the upper end of the lever-frames **h**, which are hinged to the scraper at **e**, and supported by the ground wheels **g**; by the traction of the rope **j**, the back half **a** of the scraper is lifted, and its contents dumped, after which the backward journey is made with the weight resting mainly above the large wheels **g**.

FIG. 2. 2367/05



16 *typed pages,* 11 *claims;* 2 *fols. drgs.,* 2 *figs.*

2368. 23 Jan. J. D. JENKIN, Court House Hotel, Townsville, Qld., tinsmith, and P. FOTHERINGHAM, Walker-street, Townsville, Qld., commercial traveller.

Bolt and catch for boxes.

Class 77.1.

A flat transverse bolt **D** slides in a guide **C**, secured to the inside of the lid **B**. Formed integrally with the bolt is a tail-piece **D1**, with its end curled to fit when locked over the hinge-pin of the box, so as to form an inconspicuous handle; the bolt catches under a bar **E**, fixed inside the front of the box **A**.

In a modification the bolt is released by pressure on the lid of the box.

2368/05

FIG. 2.

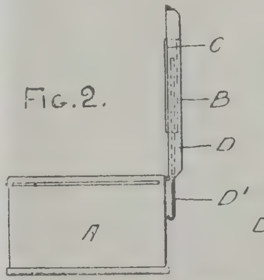
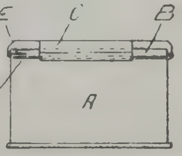


FIG. 1.



4 *typed pages,* 2 *claims;* 1 *fol. drg.,* 6 *figs.*

2369. 23 Jan. *C.a.P.* 13 Sept.

E. P. ANDREAS, Leuralla, Leura, N.S.W., gentleman.

Acetylene plant, gasholder and bascule water control; carbide trays and purifier.

Classes 21.5; 21.85.

The use and fall of the gas dome **C** operates a flexible pipe **43** and bascule tray **44**, by which the water is fed alternately to either of two generators **A** and **A1**, containing vertical stacks of carbide trays. The carbide trays are carried on a tubular stem, suspended by a rod from the cover.

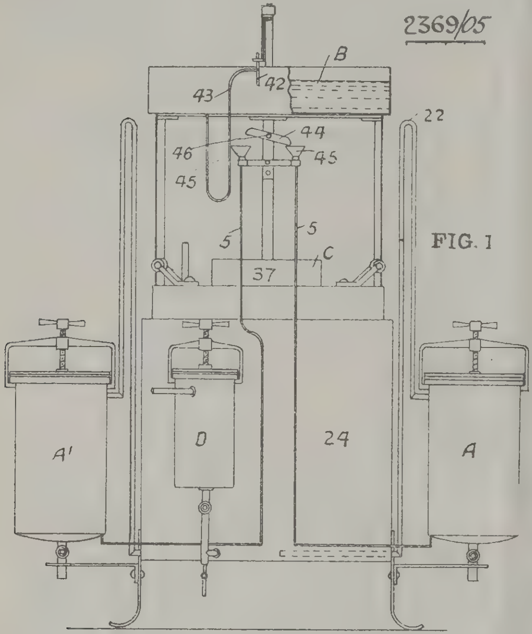


FIG. 1

The gas is purified in the holder by being spread over a series of reversed cones, as it rises in bubbles through the water.

Prov. 5 *typed pages*; 3 *fols. drgs.*, 6 *figs.*
Comp. 10 *typed pages*, 11 *claims*; 4 *fols. drgs.*, 11 *figs.*

2370. 24 Jan. W. HERBST, 8 Breitestrasse, Steglitz, near Berlin, Germany, engineer.

Ferro-concrete floors and ceilings with enclosed tubular ventilation, &c., passages.

Classes 81.1; 81.2; 81.6.

The ceiling consists of the bearing members or girders, **a**, of concrete or the like material, the tubular filling members **b**, and the covering layer or pavement of cement, &c. The girders are strengthened by an iron bar **d** rigidly anchored to the walls. The rods **q** in the covering layer are also fixed in the walls by hook-shaped ends that embrace an anchoring bolt **v**.

The ceiling is provided with means for ventilating purposes. The filling member **b** has an aperture **w** that can be opened by a damper or slide. The aperture opens into the hollow space of the filling piece, which is made to communicate with the outer air by the wall cavity or other passage.

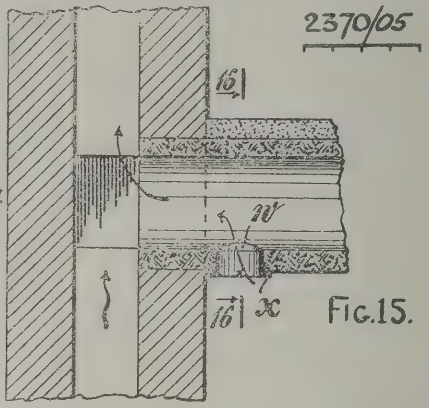


Fig.15.

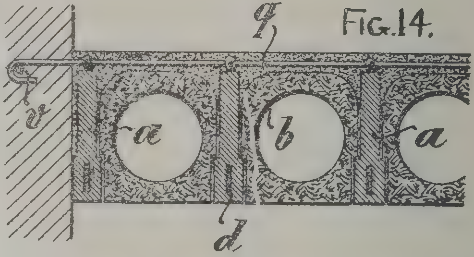


Fig.14.

Several modifications are illustrated.

9 *typed pages*, 8 *claims*; 3 *fols. drgs.*, 18 *figs.*

2371. 24 Jan. *Prov. only.*

W. FENNAH, 22 Bellair-street, Kensington, Vic., boilermaker.

"Safety check reins for the purpose of preventing horses from running away while in harness or saddle."

Class 39.4.

2372. 24 Jan. *Complete lapsed.*

R. G. KIRTON, Belmont, W.A., chemist.

"An improvement in the construction and manufacture of flower pots, seed pans, and horticultural saucers."

Class 31.4.

2373. 24 Jan. *Prov. only.*
H. E. Parry, "Villa Novo," West Guilford, W.A., civil engineer, and H. J. Edmonds, 119 Adelaide-terrace, Perth, W.A., mechanical engineer.

"The 'Sunshine' locomotive spark arrester."

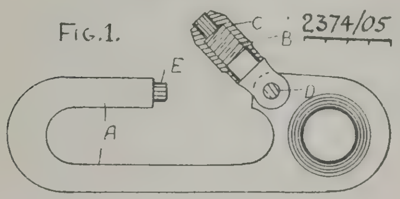
Class 17.8.

2374. 24 Jan. *C.a.P.* 15 Sept.

J. Campbell, Wyalong, N.S.W., mining manager.

Shackle or coupling hook, screw closure.

Class 58.7.



A hook or shackle **A** has a hinged tongue **B**, from which a sleeve **C** can be screwed to engage with the reduced end **E** of the hook.

Prov. 3 *typed pages;* 1 *fol. drg.*, 2 *figs.*

Comp. 4 *typed pages*, 4 *claims;* 1 *fol. drg.*, 4 *figs.*

2375. 24 Jan. *C.a.P.* 23 Oct.

D. Urquhart, engineer; G. Clements, works manager; M. Evans, woolclasser; and C. Sloper, showman, all of Smithfield, Canterbury, N.Z.

Depilating sheepskins by ammonia.

Class 47.2.

A strong ammoniacal solution is applied to the fleshy side of the sheep or lamb skin with a brush or broom. The skin is then folded and left for from 4 to 24 hours, according to the strength of solution used; the wool can then be removed by pulling. The skin is afterwards thrown into a bath of fresh water to prepare it for fleshing and tanning.

Prov. 2 *typed pages.*

Comp. 4 *typed pages*, 2 *claims. No drawing.*

2376. 25 Jan. *Prov. only.*

C. Mackay, India Rubber and Gutta Percha Co., William-street, Perth, W.A., engineer.

"A new or improved varnish, to be called the 'Blackboy Lacquer Varnish.'"

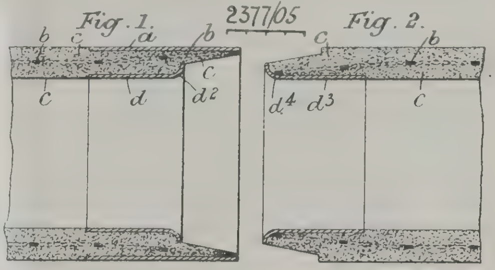
Class 79.3.

2377. 25 Jan. T. E. Devonshire, Suffolk House, Laurence Pountney-hill, London, Eng., civil engineer.

Ferro-concrete conduits; socket joint details.

Classes 03.3; 74.4; 74.5; 81.2.

The conduit is framed of combined perforated reticulated or expanded metal bedded in cement, mortar, concrete, &c., with socket and spigot joints. Metal end-pieces or ferrules **d**, **d**, with outwardly curved portions, are provided at the ends of the way, or ways, and with metal rings in contact with the ends of the embedded metal. Tapered rings of lead or other soft metal may be fitted to the concrete ends to insure contact through the expanded metal. Three modifications are described.



6 typed pages, 3 *claims;* 3 *fols. drgs.*, 9 *figs.*

2378. 25 Jan. *Prov. only.*

D. C. Smith, consulting engineer; R. B. Nicolson, mine manager; and J. Drage, mechanical engineer, all of Kalgoorlie, W.A.

"Automatic improved filter press."

Classes 14.7; 28.1.

2379. 25 Jan. *Prov. only.*

W. Duncan, Kalgoorlie, W.A., engineer.

"Improved vaporising oil lamp."

Class 23.3.

2380. 25 Jan. A. Argles, Chagford, Enmore-road, Marrickville, N.S.W., mining engineer, and G. W. Blanks, 19 Young-street, Annandale, N.S.W., engineer.

Storing wave water in elevated reservoirs.

Class 82.4.

A wood or metal chamber having a flared mouth **b** open towards the sea, is covered in and slightly arched as at **c** at the top to enclose a quantity of air. At the back of the channel is arranged a valve **d**, which opens inward; immediately behind the valve **d** is an up-take **e** through which passes all the water raised. The chamber may travel on slip-rails and the up-take may be telescoped at **g**, **h** to provide for the rise and fall of the tide and for wave motion. At the rear of the up-take **e** and open to it is a chamber **i**, the roof of which is higher than the inlet, and has an air in-take valve **k**. To this chamber is connected one or more chambers **l**, the roofs of which are also higher than their inlets.

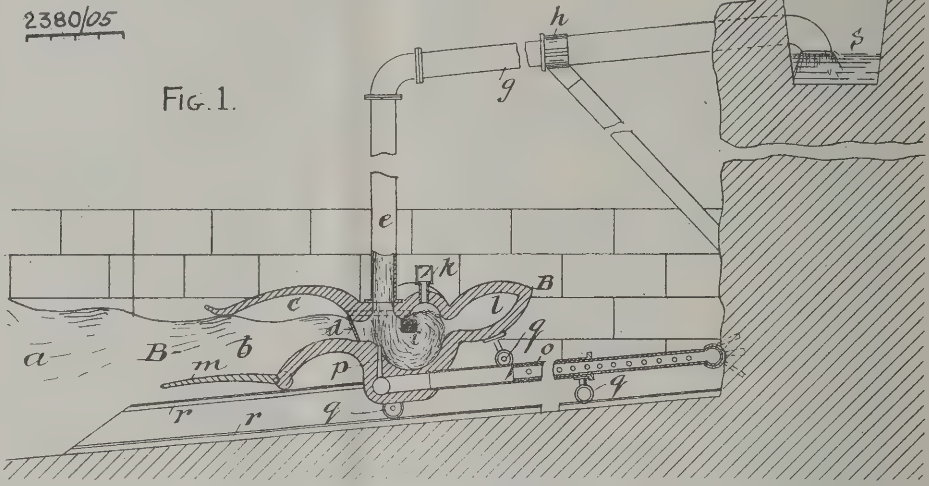


Fig. 1.

To the back of the wave motor one or more pumps **o** are attached, so that sea water is injected by the nozzle **p** into the up-take at each wave motion.

Prov. 4 *typed pages.*
Comp. 5 *typed pages,* 5 *claims;* 3 *fols. drgs.,* 3 *figs.*

2381. 25 Jan. R. C. Sayer, 11 Clyde-road, Redland, Bristol, Eng., engineer.

Electric railways; collectors for surface contacts in covered slot-conduit, operated hydraulically.

Classes 03.3; 03.4; 03.5; 03.8; 98.5.

The positive conductor **d**, Fig. 11, is laid between insulating material **c**, **c2** in the conduit trough **a**, and is covered by a continuous, flexible, protective cover of metal plates **m**, **m1** which carry the negative conductors **q**, **q1** on their under sides. This cover is raised, to allow the collecting-trolley **r** to run along the conductor, by means of a series of hydraulic cylinders **k**, Fig. 9 (located in side boxes, Figs. 1 and 2), to which water is distributed by four-way cocks **f** operated automatically through bars **e** and levers **f2**, the bars **e** being arranged so as to be depressed by the trolley as it runs along. Normally, the piston only rises to the position shown in dotted lines, but, for the insertion of the trolley into position, and for allowing one trolley to pass over another, the piston rises to the top of the cylinder. The cover **m** is held in position by the pressure on the upper side of the piston. The water is discharged from the cylinders into pipes **f10** leading to grooves between the rail **c** and the soft insulating parts **c**, **c2**.

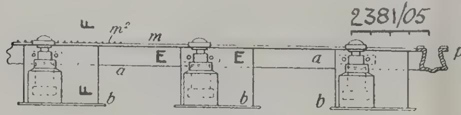


FIG. 1.

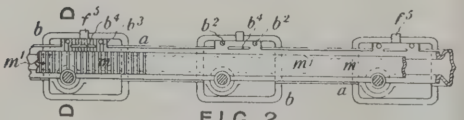


FIG. 2

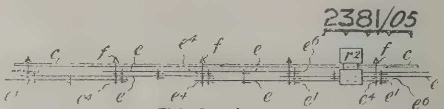
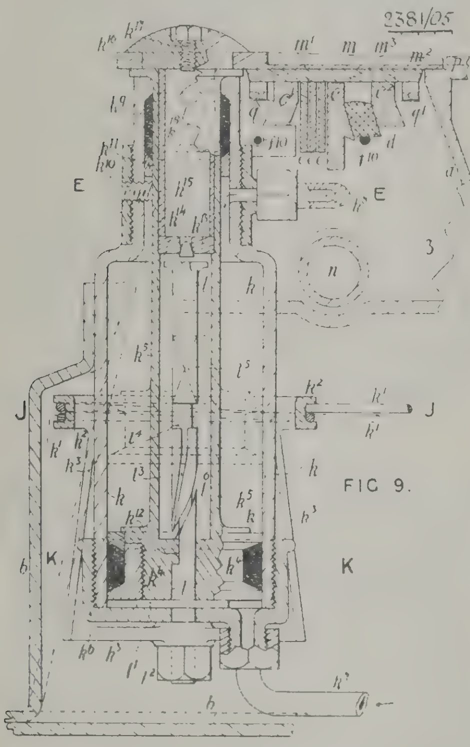


FIG. 4

To obtain the necessary control, the pistons **k4** in the cylinders **k** have hollow rods **k5** containing central spindles **l** connected by arms **k3** to drums **k2**. When the piston **k** rises, a projection **k12** engages a helical groove **l3** and rotates the drum **k2** through a right-angle, and the cord **k1** moves a controlling-arm **g** (Fig. 11) into a raised position, where it may be thrown over by the contact of a bar **u** on the trolley. This movement of the arm **g** turns the drum **k2** and spindle **l** through another right-angle, and removes a stop **l5** out of the path of the piston, which is then raised to the top of the cylinder. When the trolley leaves the bars **e**, the four-way cock **f** is reversed by a weighted cord **f7** around a pulley **f6**, and the piston is caused to descend, the lug **k12** returning the controlling-arm **g** by engaging a helical groove **l6** and turning the shaft **l** and drum through two right-angles. The cocks **f** for controlling the water supply to the cylinders **k** have hollow spindles **f3** enclosed in sleeves **f8**, and they are pressed on their seats by springs **f4**; a lubricant is supplied through the spindles **f3**.



FIC 9.

The collecting-trolley is formed of a body **r**, Fig. 11, having a double flanged wheel **r2** for making contact with the positive conductor **d**, and two similar contact-wheels (not in the plane of Fig. 11) at a higher level on **r**, for making contact with the negative conductors **q**, **q1**.

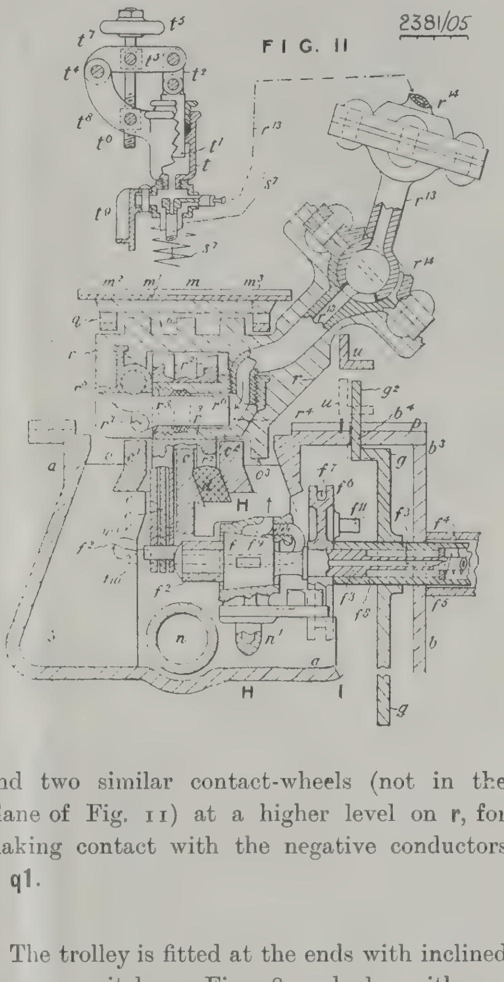


FIG. 11

The trolley is fitted at the ends with inclined arms or switches **s**, Fig. 18, and also with vertically-sliding shoes **w2** for operating the bars **e**; it is connected with the vehicle by a flexible tubular connexion **r13**, **r13**, Fig. 11, or it may be formed in connexion with the vehicle. The axle of the roller **r2** forms a cylinder for a ram **r6**, Figs. 11 and 20, which rocks a shaft **r10**, and, through levers **r8**, **r9**, raises the inclined arms or switches **s**, **s1** when the trolley is to run over another trolley, or is to be guided on to a branch line, by the switches bearing against the negative conductors. This movement also lowers the bar **u** to meet the lever **g** as described above. Pressure for operating the ram **r6** is obtained by moving a ram **t1** in a cylinder

t on the vehicle, by means of a hand-wheel and screw **t5** and levers.

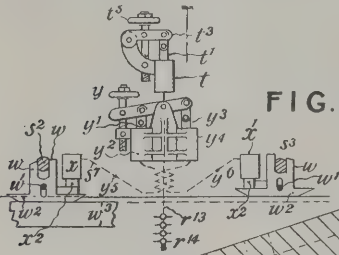


FIG. 20.

The shoes **w2** are moved by rams **x**, **x1**, Fig. 20, to rise and fall alternately, other rams **y1**, **y3** operated through a hand-screw and levers supplying and withdrawing the pressure.

For traversing vertical or inclined surfaces, the conductors may be arranged outside the track, which is duplicated at the vertical or inclined parts.

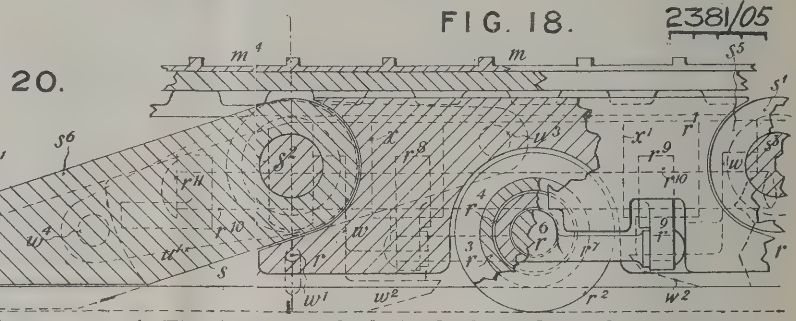


FIG. 18.

Comp. 23 *typed pages,* 12 *claims;* 9 *fols. drys.,* 22 *figs.*

2382. 25 Jan. R. Wallace, Ellerslie, Castle Douglas, Kirkcudbrightshire, Scot., agricultural implement maker.

Teat cup with attached pulsator.

Classes 36.1; 65.4.

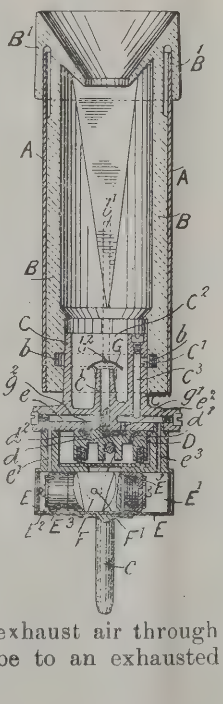
Each teat cup **A** has a separate pulsator **D**, **E**. The pulsator has a duplex motor-piston **E3**, with a central rocking lever **F** which operates the slide valve **D** with the assistance of fly-over springs; the pressure side of the valve being open to the air, and the vacuum side connected to the teat cup by ports **e**, **d**, **g**, &c.

The teat cup of aluminium tube **A**, has a rubber liner or diaphragm **B**, which fits an air-tight connexion to the tube **C** on the pulsator; the diaphragm **B** has longitudinal grooves outside, connected by passages **b2** to the annular groove **b** at its base, which surrounds **C**, and connects to ports **c3**.

Thus the inner and outer sides of the diaphragm are alternately subjected to the vacuum, the milk flowing with the exhaust air through the exit **c** by a rubber tube to an exhausted milk pail.

2382/05

FIG. 5.



Comp. 5 *typed pages,* 4 *claims;* 1 *fol. drg.,* 5 *figs.*

2383. 25 Jan. The Calico Printers' Association Limited, 56 Mosley-street, Manchester, Lancashire, Eng., calico printers (*assignees of* W. Warr, *act. inv.*, Buckton Vale Print Works, Staleybridge, Cheshire, Eng., chemist).

Precipitated magnesia as mordant for dyeing.

Class 26.5.

The cotton goods are steeped in a soluble magnesium salt such as magnesium sulphate. Magnesium hydrate is formed and fixed by the addition of caustic soda solution, or by steam if the magnesium salt of a volatile acid is used.

Other magnesium insoluble compounds may be used as the mordant, *e.g.*, the silicate which is formed by the addition of sodium silicate. Magnesium hydrate gives the most satisfactory results.

4 *typed pages,* 2 *claims. No drawing.*

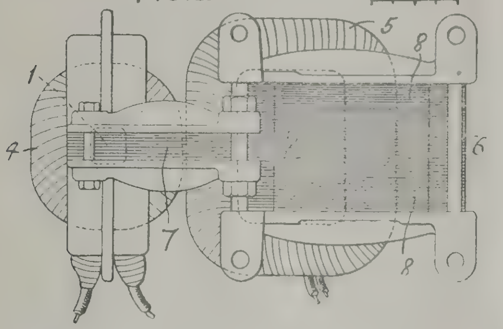
2384. 26 Jan. E. Phillips, 533 Collins-street, Melbourne, Vic., patent attorney (*communicatee of* F. Conrad, *act. inv.*, 206 Elm-street, Edgewood-park, Penn., U.S.A., electrical engineer).

Constant voltage transformer; divided magnetic circuit of varied reluctance.

Classes 02.6; 03.8.

The transformer core is branched, having two magnetic circuits, one **6** of high reluctance (containing an air-gap), which is normally unsaturated, and the other **1** of low reluctance and limited section, which is normally heavily saturated. The primary winding is placed on the core **2**, common to both circuits, but at the normal voltage of supply the major portion of the magnetic flux will pass through the circuit of small reluctance on which the secondary winding is located. With this disposition of the coils and magnetic circuits any increase or decrease within limits in the voltage impressed on the primary winding will cause an increase or decrease in the flux through the magnetic circuit **6** of high reluctance (which is normally unsaturated), but will not vary to any considerable extent the flux around the magnetic circuit **1** of low reluctance, which is normally saturated. The voltage of the secondary winding will be substantially constant, notwithstanding considerable variation in the voltage impressed upon the primary winding.

Fig.1.



The core plates are of OO-outline with an air gap at one side and an isthmus at the other; certain plates extend only around the branch having the gap.

4 printed pages, 4 claims; 1 fol. drg., 3 figs.

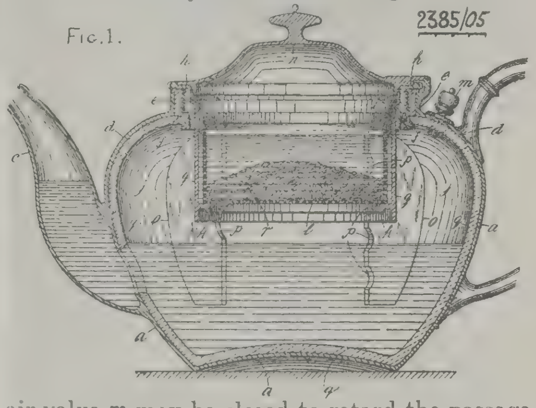
2385. 26 Jan. C. H. Leibbrand, Edelweiss, Sidney-avenue, Bowes-park, Middlesex, Eng., author.

Infusing sieve for teapots; air valve.

Class 24.7.

A metal teapot **a** lined with earthenware **q**, has a loose cylindrical infusion sieve **l** carried on the lower flange of a depending tube **g** which is screwed air-tight into the opening of the pot, and is covered by the usual folding lid **n**. An air-valve **m** may be closed to retard the passage of the liquid from the tea leaves in the sieve **l**, or opened to allow it to descend quickly for use. The upper space in the pot around the tube **g** has radial partitions **o** with notches **p** to promote circulation.

Fic.1.



The infusion takes place under pressure, and the air film between the metal body and the lining acts as heat insulation.

Comp. 7 typed pages, 3 claims; 2 fols. drg., 1 fig.

2386. 26 Jan. A. J. Smith, 18 Plasnewydd-place Cardiff, Glamorganshire, Wales, G B., inventor.

Operating facing points from tramway vehicles.

Class 98.2.

The switch point is normally held closed by a spring on the rod **r**, and is locked by a detent coupled by a rod **k** (Fig. 2) and crank arm **j** to a cam **h** in the groove of the rail on the approach side. When the detent is released, by lowering the rod **20** from the approaching car to meet the cam **h**, the point is opened by the re-action of the spring on the rod **r**, and is again closed as the car passes the switch by the action of a flanged wheel on the cam **4**, which acts through the link **x** to replace the switch tongue in its locked position.

Fig. 6 shows one arrangement on the car. The operating rod **18** (which carries the guide-roller **19**, for engaging the guide slot **f**, and also an operating arm **20**) is depressed by a spring **24**, and raised by a foot lever **13** with detent **16**, **17**.

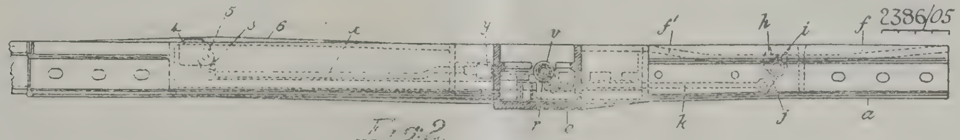
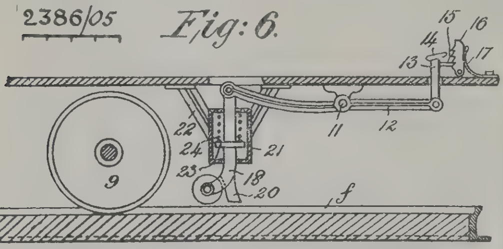


Fig.2.

The flanges or rollers which act on the cam **4** travel a little above the level of the rails, which have raised portions **6**, to guide the flanges when depressing the cams **4**.

The trolley wire switches overhead may be operated by a cord led from the rod **r** over suitable pulleys. Drainage openings for water and mud are provided.

2386/05 *Fig: 6.*



7 printed pages, 6 claims; 3 fols. drgs., 9 figs.

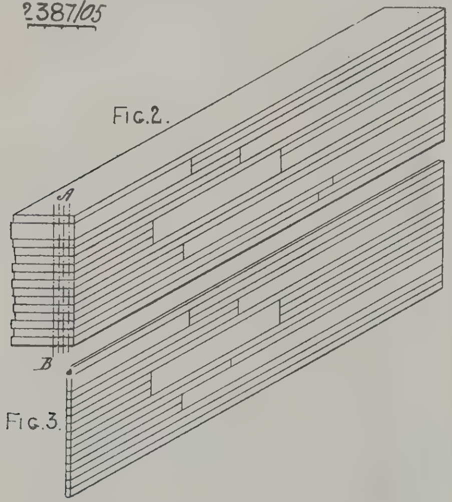
2387. 26 Jan. G. S. MAYHEW, 2 Basinghall-avenue, London, Eng., engineer.

Paper-faced veneer boards, from scrap timber.

Classes 48.1; 80.9.

The deals from which the compo boards are cut are built up of pieces of wood which may be of any irregular length or form. These are cut into thin boards, two or more of which are joined along their longitudinal edges, and the resulting board cut into core sections **A**, **B** which are joined edge to edge to form a continuous sheet of any desired length. This sheet is coated with thick cement, by spouts from tanks, and fed through grooved rollers to spread the paste, and afterwards between two sheets of paper through heated rolls to consolidate the whole. In some cases metal foil may be interposed between the wood and paper.

2387/05



9 printed pages, 8 claims; 2 fols. drgs., 5 figs.

2388. 26 Jan. D. H. and E. J. BURRELL, Little Falls, Herkimer, New York, U.S.A., manufacturers (*assignees of* L. BURRELL, *act. inv.*, Little Falls, New York, U.S.A.)

Milking machines; rotary pulsator; teat cups and connexions.

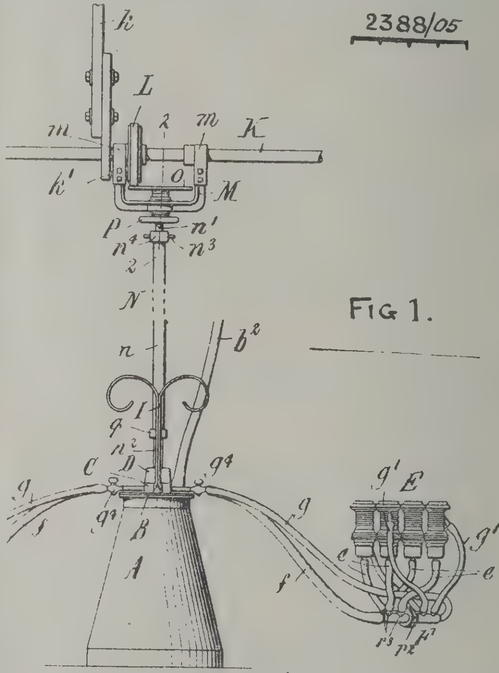
Classes 36.1; 65.4.

The portable milk vessel **A**, Fig. 4, has mounted on it the pulsator, which rests detachably and tightly on its rubber collar **b**. The suction pipe **b2** connecting the pail with the vacuum pump is attached to the nipple **b1** on base plate **g**. A raised valve seat **C** (formed centrally on **B**) contains the milk and air passages, Fig. 7, and has above it the rotating pulsator valve **D**, Fig. 6.

E represents a set of four teat cups, each provided at its lower end with a branch milk pipe **e** and at the side with air-pipes **g1**, leading by the connector **F**, main milk pipe **f**, and air pipe **g** to the pulsator.

The valve **C** is rotated by a flexible shaft **N** and friction gear **L**, Fig. 1, from a horizontal driving shaft **K**. During the rotation of the valve **C** the suction is applied to the milk pipes **f** and the air pipes **g** alternately, the external air being admitted to the pipes from which the suction has been cut off.

2388/05



The connector **F** is also a device for admitting the external air automatically to the branch milk pipes and the interior milk spaces of the teat cups for quickly relieving the partial vacuum therein when the suction is cut off from the main milk pipe by the pulsator. It consists of a tubular milk passage **r**, Fig. 8, a tubular air passage **r1**, and an immediate valve chamber **r2**. The valve chamber **r2** contains an air inlet diaphragm valve **r5** which divides the chamber into two parts, **r** and **r1**, communicating respectively with the milk and air passages. The valve is automatically opened and closed by the pulsations in the air pipes.

2388/05

Fig. 4.

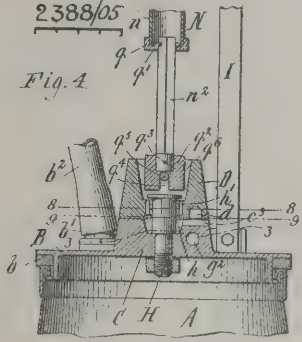


Fig. 6.

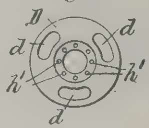
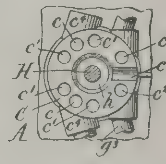


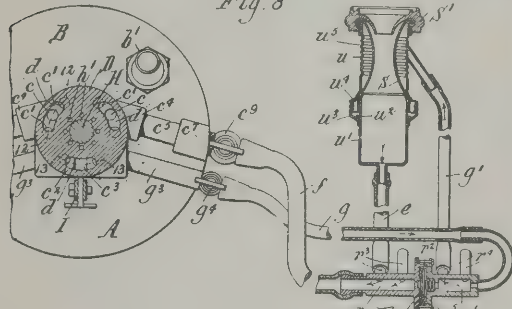
Fig. 7.



The teat cup is formed with upper and lower tubular sections. The lower section is connected with the milk pipe by a nipple, and the upper with the air pipe. The upper section has a flexible lining **S** clamped at both ends to the tube **u**. The upper section is corrugated to prevent the lining sticking against the opening of the suction pipe. A soft rubber mouth-piece **s1** is fitted at the upper end of the cup.

2388/05

Fig. 8



18 *typed pages*, 11 *claims*; 4 *fol. drgs.*, 19 *figs.*

2389. 26 Jan. J. H. Cartland, Constitution Hill, Birmingham, Eng., managing director.

Fanlight adjuster; rack and worm gear.

Class 78.8.

A rack **12**, hinged to a bracket **13** on the window frame **10** engages with worm gearing, Fig. 4, having an intermediate gear wheel **14**, mounted in a bracket **27** fixed to the sash **11**. The worm gear is mounted in a divided box or frame carried on trunnions **28**. A cord wheel **19** on the spindle **16** has a cord guide **20** with overhanging projections **21** to keep the cord in place.

2389/05

Fig. 1.

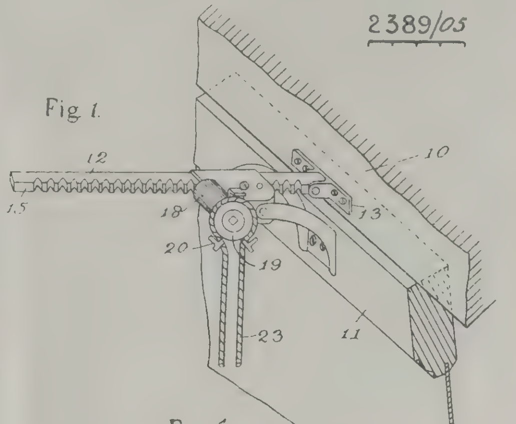
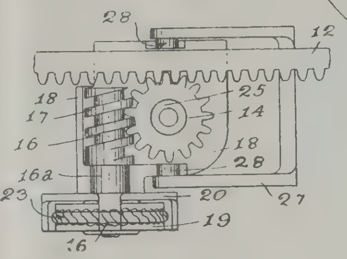


Fig. 4



Prov. 2 *MS. pages.*

Comp. 5 *typed pages*, 4 *claims*; 1 *fol. drg.*, 8 *figs.*

2390. 26 Jan. *Prov. only.*

T. F. Curran, 58 Spensley-street, Clifton Hill, Vic., boot clicker.

"Improved spring catch for sliding window sashes and the like."

Class 78.7.

2391. 26 Jan. *Prov. only.*

A. Jarrett, 13 Broadway, Glebe, N.S.W., lamp-maker.

"Revolving lamp top."

Classes 23.5; 90.7.

2392. 26 Jan. *Prov. ouly.*

R. H. Crook, 5 Mary-street, South Preston, Vic., clergyman.

"An improved tide motor."

Classes 67.4; 82.4.

2393. 26 Jan. Aktiebolaget Separator, 8 Fleminggatan, Stockholm, Sweden, manufacturers.

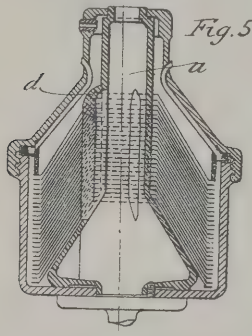
Application under Sec. 7, patented in—

N.S.W. ... 10,493 ... 29th Sept., 1900
Qld. ... 5,697 ... 1st Oct., 1900

Radial feed for cream separators.
Class 36.6.

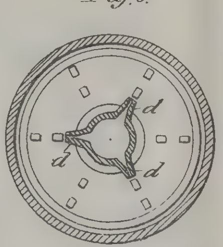
In this feed device the milk is driven centrifugally through narrow vertical slots in the central feed tube into the centrifugal vessel; the slots have the same height as the group of conical plates, and lead the milk through the inner layer which is richest in cream without disturbing it into a zone where the rotating milk undergoing the separating process is approximately of the same specific gravity as the milk newly fed to the apparatus.

Fig. 5.



2393/05

Fig. 6.



Several arrangements of slots are illustrated.

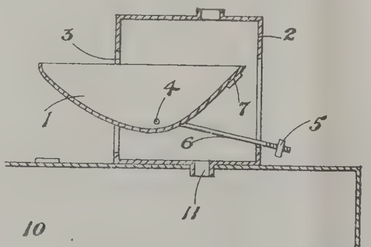
5 *typed pages*, 1 *claim*; 1 *fol. drg.*, 6 *figs.*

2394. 26 Jan. J. St. C. Gunn, Bloomsbury, Kaikoura, Marlborough, N.Z., surgeon.

Rain interceptor; bascule and tilting spout.
Class 83.1.

The bascule **1** is placed in a casing **2** between the down-pipe from the roof gutters and the water tank **10**. The bascule is counterbalanced by the adjustable weight **5** in such a manner that, when filled by the first flow of rain, it tilts and discharges nearly all its contents outside of the tank, and remains tilted until the small quantity of water remaining is evaporated, when it resumes its normal position. While the bascule remains tilted the clean roof-water falls clear of the edge **7**, collects in the casing **2**, and runs into the tank.

FIG. 2. 2394/05



4 *typed pages*, 3 *claims*; 2 *fols. drgs.*, 2 *figs.*

2395. 27 Jan. E. Phillips, 533 Collins-street, Melbourne, Vic., patent attorney (*communicatee of* L. Lheure, *act. inv.*, 10 Rue Gay Lussac, Paris, France, engineer).

Chlorate and paraffin safety explosive.
Class 89.8.

The explosive is made by mixing ground potassium or sodium chlorate with melted paraffin wax, in the proportion of 90 per cent. of chlorate to 10 per cent. of paraffin. It burns without explosion, and requires a fulminate of mercury detonator for complete explosion.

4 *typed pages*, 2 *claims*. *No drawing.*

2396. 27 Jan. E. Phillips, 533 Collins-street, Melbourne, Vic., patent attorney (*communicatee of* L. Lheure, *act. inv.*, 10 Rue Gay Lussac, Paris, France, engineer).

Metallic tubular detonating fuses containing tri-nitro-toluene, &c.
Class 89.8.

The detonating tubes are made of lead or tin of substantial diameter, and are filled with melted tri-nitro toluene or tri-nitro-benzene and are afterwards rolled or drawn to smaller diameter (2 mm. more or less externally); the wire may be strengthened by a plaited sheathing or other covering. The detonation is propagated (when started by a fulminate of mercury detonator) with the same high velocity obtained in larger tubes.

3 *typed pages*, 3 *claims*. *No drawing.*

2397. 27 Jan. E. Phillips, 533 Collins-street, Melbourne, Vic., patent attorney (*communicatee of* L. Lheure, *act. inv.*, 10 Rue Gay Lussac, Paris, France, engineer).

Exploding ammonium nitrate by detonating tubes.
Class 89.8.

To insure complete explosion of ammonium nitrate *per se*, the charge is primed for the whole of its depth by means of the detonating tube or wire fuse, which may be extended outward and fired from the surface by a fulminate of mercury detonator.

4 *typed pages*, 2 *claims*. *No drawing.*

2398. 27 Jan. A. J. H. Burt, Hornby, Canterbury, N.Z., fellmonger.

Depilating sheep skin trimmings by caustic lye.

Class 47.2.

The trimmings of the skins are washed in water and soaked for 24 hours in a solution of caustic soda (sp. gr. 1.003) at a temperature of 110 degrees Fahr. They are then removed from the alkaline bath and washed in fresh water. The wool may then be pulled or otherwise removed from the skin pieces, and is of good colour, while the glue and fat pieces are deodorized.

3 typed pages, 2 claims. No drawing.

2399. 27 Jan. *C.a.P.* 20 Oct.
F. J. Brown, *act. inv.*, Cornwall-road, Ngaire, N.Z., farmer, and D. Syme, *assignee*, Eltham, N.Z., solicitor.

Leg-rope noose and lever for milking.

Class 36.1.

The wire leg-rope **C** has a rubber covered end **c** that may be looped around the cow's leg, and secured by the eye **e**, engaging a spring catch **F** threaded on the rope **C**, which is passed through a staple **D** on the post, tightened with the lever **B** and secured by a peg in the slot **b**. To release the cow, the catch **F** is opened by pulling the cord **H1**.

Prov. 2 *typed pages.*
Comp. 3 *typed pages,* 1 *claim;* 1 *fol. drg.,* 3 *figs.*

FIG.1.

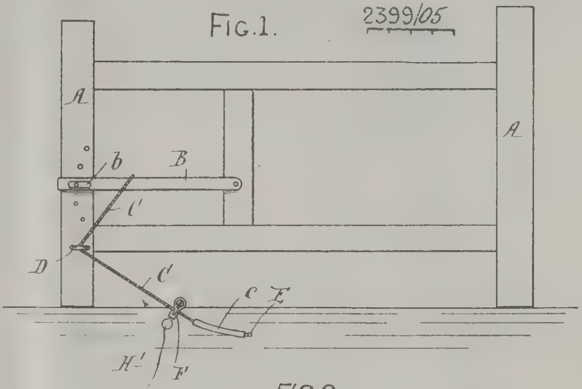
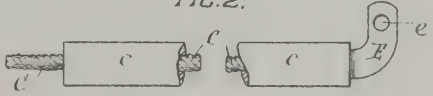


FIG.2.



2400. 27 Jan. J. E. Bloom, New York, U.S.A. (temporarily of Manila, Philippine Is., Captain Commissary U.S. Army).

Artificial human fat, containing olein, palmitin, stearin.

Classes 09.2; 34.0; 35.4.

Sixteen prescriptions are given for preparing fractions of edible oils, and compounding these fractions with native oils, or fractions of oils of predetermined composition, in such amounts that, when the fractions of the oils are incorporated with the native oil, the total oil in the food product shall consist of olein, palmitin, and stearin in the proportions approximating to the proportion of these fats existing in human fat. The product is for use as easily digestible food.

24 typed pages, 10 claims. No drawing.

2401. 27 Jan. *Prov. only.*
H. Best, Dunedin, N.Z., labourer.

"Improved apparatus for cleaning table forks."

Classes 75.6; 76.8.

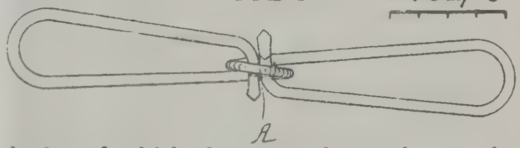
2402. 27 Jan. F. T. Page, Dannevirke, Hawke's Bay, N.Z., gentleman.

Wire double link or shackle for chains.

Classes 58.4; 58.7.

A double chain link or shackle is formed of a length of wire having a loop **A** at the centre, by bending each end around to form a link; the flattened ends are then bent and passed through the loop **A** which closes on them when under tension. The loops may be in the same plane, or twisted at right angles.

FIG.3



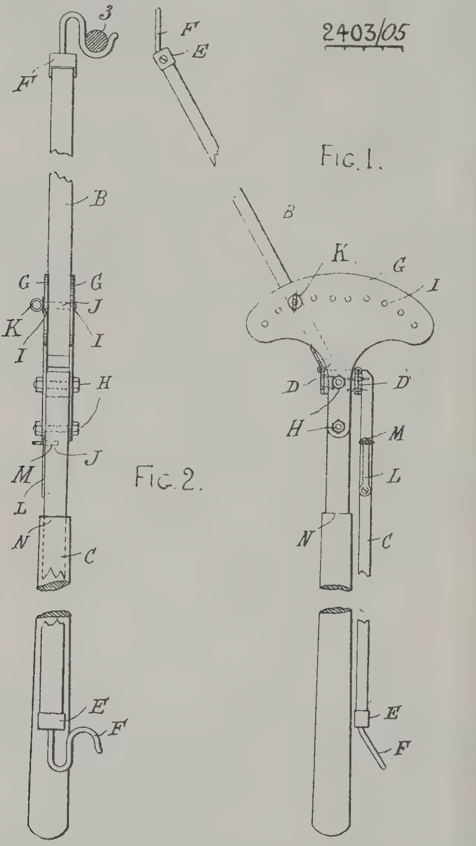
4 typed pages, 2 claims; 1 *fol. drg.,* 4 *figs.*

2403. 27 Jan. W. H. Simmons, Hopwood-street, Echuca, Vic., wheelwright.

Double lifting-fork for curtains, pictures, shop goods, &c.

Classes 46.6; 54.7.

A telescopic hand-rod **N** has, at the top, two perforated cheek plates **G**, also a pair of hinged arms **B** and **C** having hooks or curtain-pole supports **F** at the upper ends; the arms when in use are spread at any required width by pins **K** passing through the cheek plates, or by pins **M** pressed into engagement with holes **J** by springs **L**. The arms may be folded downward for portability, as illustrated at the arm **C**.



4 *typed pages*, 5 *claims*; 1 *fol. drg.*, 2 *figs.*

2404. 27 Jan. *Comp. lapsed.*

E. Pielock, 31 Uhlandstrasse, Berlin, Ger., engineer.

"Improvements in or connected with tubular boilers or steam generators."

Classes 63.2; 95.1; 98.3.

2405. 28 Jan. W. J. Spruson, 169 King-street, Sydney, N.S.W., patent attorney (*communicatee of* B. J. Jones, *act. inv.*, 555 East 45th-place, Chicago, Ill., U.S.A., electrical engineer).

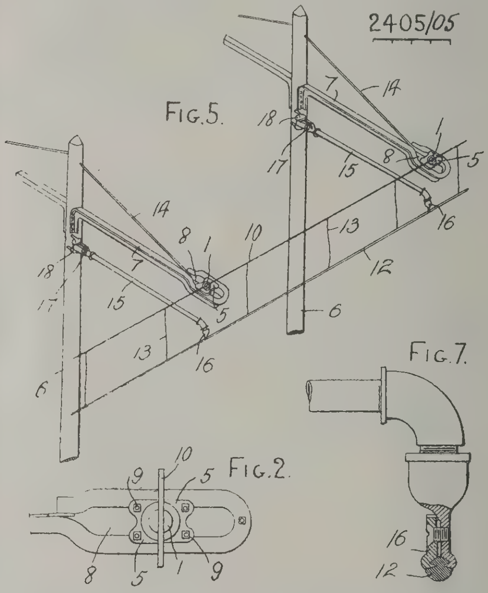
Catenary suspension with glass insulators for trolley wires.

Classes 03.4; 04.1.

To facilitate the use of fragile insulators such as glass, porcelain, &c., on overhead trolley construction, a "messenger" or suspension-bridge wire **10**, Fig. 5, is supported on glass insulators **1**, which are carried in brackets **7**.

The trolley wire **12** is attached to the insulated "messenger" wire **10** at intervals by suspenders **13**. Fig. 2 shows a method of attaching the wire **10** and insulator **1** to the bracket end **8**.

To prevent any lateral movement of the trolley wire a bracket **15** is pivotally mounted on the pole **6**, and insulated therefrom by means of an insulator **18**. The coupling **17** will permit a movement of the bracket **15** in a vertical plane, but not in a horizontal one. Fig. 7 shows the method of attaching the arm **15** to the trolley wire **12**.



7 *typed pages*, 5 *claims*; 2 *fols. drgs.*, 7 *figs.*

2406. 28 Jan. *Prov. only.*

H. Braby, 85 Birchgrove-road, Balmain, N.S.W., engineer.

"Improvements in rectangular shelter tents."

Class 81.3.

2407. 28 Jan. *Prov. only.*
W. J. L. Guest, "Melrose," Fulham-road, Alphington, Vic., clerk.

"Improvements in or relating to wind turbines."

Class 90.7.

2408. 31 Jan. *Prov. only.*
T. Weller, Owen-street, Goodwood Park, Adelaide, S.A., gas company employé.

"An improved attachment for incandescent burners, to prevent moths and other insects obstructing them."

Class 22.5.

2409. 31 Jan. W. H. Harrison, Rhodes-avenue, Naremburn, N.S.W., metallurgist.

Induction coil for electric belts.

Classes 02.6; 87.8.

The belt **A**, Fig. 2, is provided with metal clips **D** carrying contact pads on the interior of the belt. These pads may be adjusted to any position on the belt by sliding the clips **D** around it. A coil, Fig. 3, is carried in a pocket **G**, and a battery in the pocket **F**. Rheotomes **E** may also be attached to the coil by a flexible conductor such as **T**.

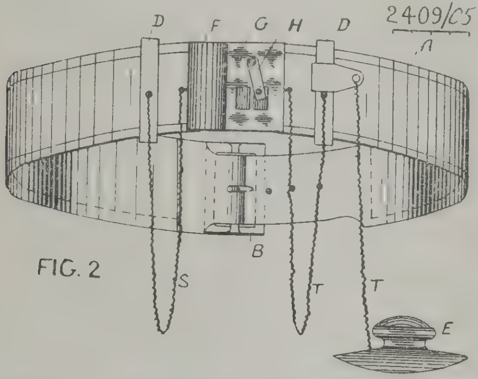
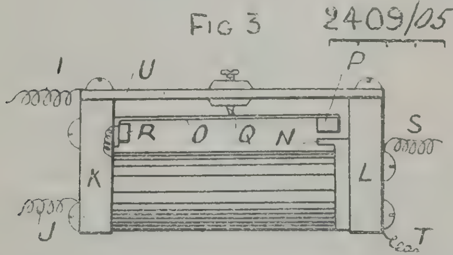


FIG. 2

FIG 3



5 *typed pages*, 3 *claims* ; 1 *fol. drg.*, 4 *figs.*

2410. 31 Jan. T. H. H. Widdicombe, Lord's-road, New Town, Tas., provision dealer.

Gravity button-latch for gates.

Classes 77.1; 81.9.

The button **a** is a block of wood or metal hung freely on a pivot **b** above its centre of gravity; the cam-surface on the locking end is below the pivot, so that the gate **c** will push the latch back as it shuts against it.

The button may be a metal shell, with or without a handle, mounted in a box frame attached to the gate or post.

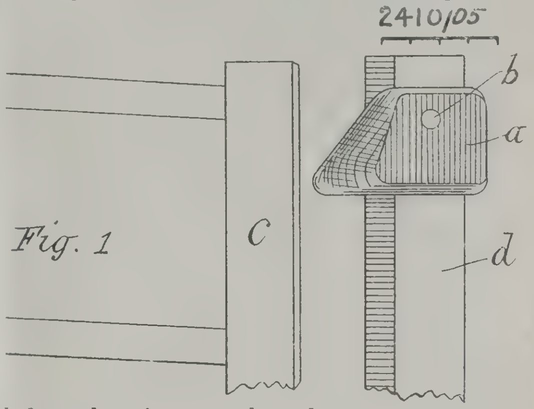


Fig. 1

5 *typed pages*, 4 *claims* ; 2 *fols. drgs.*, 6 *figs.*

2411. 31 Jan. *Prov. only.*
J. Blackwood, laundryman, Merivale-steeet, and J. Mitchell, tea merchant, 81–83 Melbourne-street, South Brisbane, Qld.

"The king oil syphon."

Classes 22.4; 83.7.

2412. 31 Jan. *Prov. only.*
C. E. Williams, Ayr-street, Petrie-terrace, H. W. Nelson, Primrose-terrace, Ithaca, T. W. Higgs, Cambridge-street, Red Hill, Brisbane, and W. J. Hagen, Norman-street, East Brisbane, Qld., all electricians.

"The premier electric light judging machine."

Class 53.3.

2413. 31 Jan. *Prov. only.*
R. J. Fawcett, First-avenue, East Adelaide, S.A., retired master mariner.

"Improved lock-bolt and nut."

Class 78.4.

2414. 31 Jan. *C.a.P.* 30 Oct.

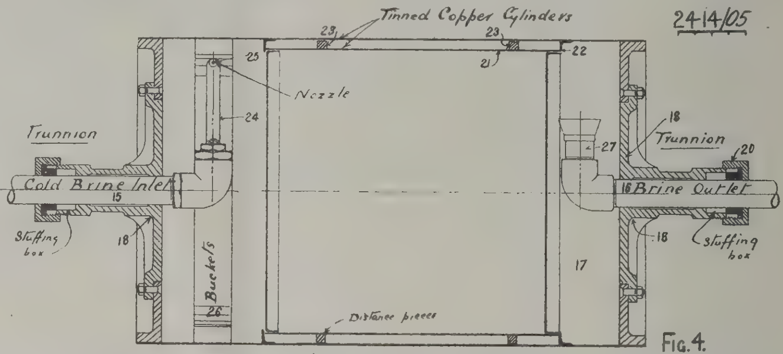
H. Tyer, *act. inv.*, Singleton, N.S.W., engineer, and R. Sinclair, *assignee*, 82 Pitt-street, Sydney, N.S.W., consulting engineer.

Rotating milk cooler, with self-contained motor turbine.

Classes 36.3; 67.4.

The cooling medium enters through one trunnion or hollow bearing **18** of a revolving cylinder **17**, and is directed through a nozzle **25** at such an angle as to cause the rotating of the cylinder **17**, which may have buckets or vanes **26** on its internal surface. A secondary internal drum or cylinder **21** is fixed inside the revolving cylinder **17** to reduce its capacity.

The cream or milk is sprayed on the smooth exterior of the cylinder and removed by a wooden scraper on the rising side.



2414/05

Fig. 4.

Longit^l Section thro' Cylinder

Prov. 3 *typed pages.*
Comp. 5 *typed pages,* 6 *claims;* 3 *fols. drgs.,* 6 *figs.*

2415. 31 Jan. *C.a.P.* 27 Oct.

H. J. Holden, Grenfell-street, Adelaide, S.A., saddler, manufacturer and importer.

Divided metal tug loop or keeper for machine stitched traces.

Classes 39.6; 42.7.

Metallic tug keepers are made in two parts, attached by riveting at the base; to facilitate machine sewing, the several layers of leather traces are stitched together with a loose leather cross drift, which is withdrawn and the base plate **c** inserted over which the D-loop **a** is sprung and riveted at **d**.

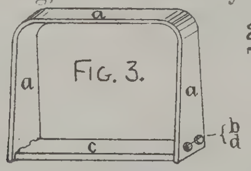


Fig. 3.

2415/05

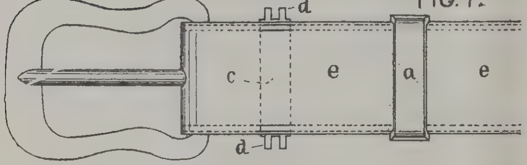


Fig. 4.

Prov. 3 *typed pages.*
Comp. 4 *typed pages,* 2 *claims;* 1 *fol. drg.,* 4 *figs.*

2416. 31. Jan. *Comp. lapsed.*

F. S. Greer, station manager, and R. Aitken, plumber, Garrawilla Station, *viâ* Gunnedah, N.S.W.

"Automatic rabbit-pit trap-doors."

Class 38.7.

2417. 31 Jan. *Prov. only.*

W. A. and C. P. Gartside, Moorabbin-road, Cheltenham, Vic., market gardeners, *act. invs.;* E. T. Penny, Jack-road, Cheltenham, market gardener; and C. F. McDonald, Point Nepean-road, South Brighton, Vic., contractor, *assignees.*

"Improved means for operating back-pedalling rim brakes."

Class 94.3.

2418. 31 Jan. *Prov. only.*

H. I. Humphry, Bedford House, Monmouth-street, Bridgewater, Somersetshire, Eng., manufacturer.

"Improvements in folding push carts or perambulators for children."

Class 93.2.

2419. 1 Feb. *Prov. only.*

H. Stone, 144 George-street, Fitzroy, Vic., boot manufacturer.

"A seamless button or clasp piece shoe."

Class 44.1.

2420. 1 Feb. *Dr.* E. Fleischer, Dresden-Strehlen, Tiergartenstrasse 32, Germany, chemist.

Gas producers for bituminous fuel; multiple air inlets.

Classes 16.2; 21.2.

In a method of producing power gas in which air is admitted at the top and bottom of the generator and the gas is withdrawn from about the middle, a third supply of air is provided towards the top, thereby enabling such substances as bituminous fuels, lignite, and sawdust to be utilized.

The producer has a grate **b**, air-inlet pipe **c**, evaporating-dish **d**, and a circular channel **h** communicating with the leading-off pipe **g**. In the conical mouth a large adjustable tube **m** is mounted, which projects downward into the charge, and is provided with a roof **n** and lateral openings **p** above the level of the charge. The opening **q** forms the ordinary upper air inlet, and the openings **p** the additional inlets. The grate may be extended towards the upper layers of the charge.

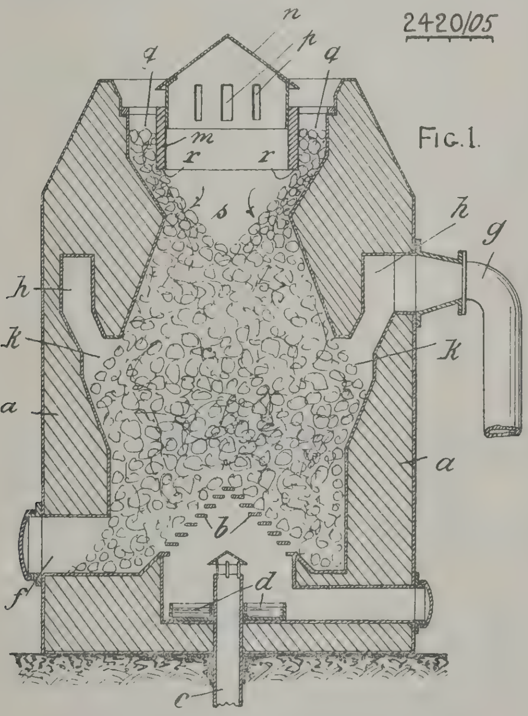


FIG. 1.

A modification is also illustrated in which the tube **m** is replaced by a closed top, and an adjustable water-jacketed tube of smaller diameter; the grate is also modified.

7 typed pages, 7 claims; 2 fols. drgs., 2 figs.

2421. 1 Feb. *Prov. only.*

J. Gitsham, 381 Little Collins-street, Melbourne, Vic., metallurgist.

"An improved water-proof device for securing detonators in primers for explosives."

Class 89.9.

2422. 1 Feb. B. Singer, 601 to 605 Security Building, Chicago, Ill., U.S.A., patent attorney.

Dust laying mixture; oiled sawdust, salt, &c.

Class 25.9.

To facilitate the collection of agglomeration of dust on floors, &c., before being swept, the usual damped tea-leaves (or equivalent material) are replaced by a mixture of cement (to absorb the oil), granular chloride of sodium (to prevent freezing), sand and sawdust (as a carrier), with kerosene or any non-volatile oil. The mixture contains approximately, cement 10 per cent., granular chloride of sodium 15 per cent., sand 60 per cent., sawdust 10 per cent., and paraffin oil 5 per cent.

7 typed pages, 8 claims. No drawing.

2423. 1 Feb. *Comp. lapsed.*

G. G. Turri, 150 Queen-street, Melbourne, Vic., patent attorney (*agent of* F. D. Hopkins, *act. inv.*, San Francisco, Cal., U.S.A.).

"Improvements in gun sights."

Class 89.5.

2424. 1 Feb. A. G. MEYER, 2808 Folson-street, San Francisco, Cal., U.S.A., physician.

Preparation of creosote and acetanilide, as an antitoxin and antiseptic.

Class 87.1.

The creosote is mixed with acetanilide to form a paste in which carbonate of ammonium is worked, and afterwards nitric acid. After effervescence has subsided the paste is boiled with water; add alcohol, and boil again; allow the mixture to cool, and separate into a liquid portion and a crystalline portion, separate and wash the crystals and dissolve in dilute alcohol.

Thirty to 160 minims are injected in a case of diphtheria, tuberculosis, or asthma, or it can be used outwardly as an antiseptic.

3 *typed pages*, 2 *claims*. *No drawing.*

2425. 1 Feb. (*dated* 11 *Nov.*), A. SMALLWOOD, 52 Gracechurch-street, London, Eng., metallurgist.

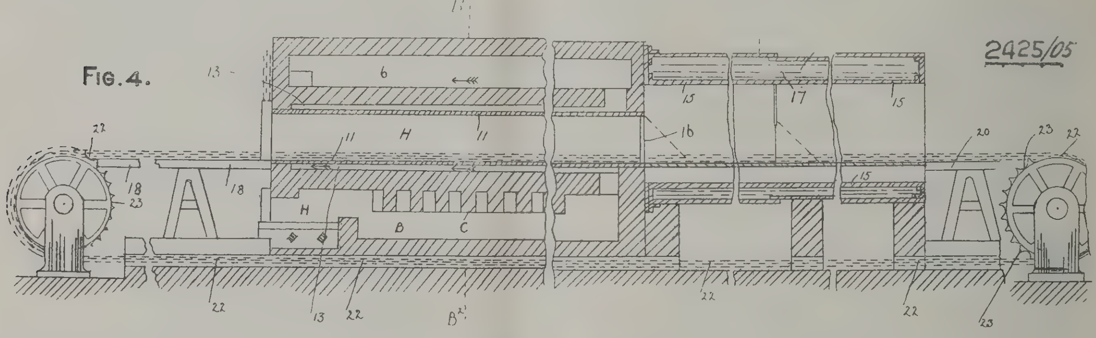
Section 85, additional to 1690/04.

Annealing muffle furnace and cooling chamber; travelling carriages and conveyers.

Classes 16.2; 16.7.

In furnaces for annealing metal articles, glass, pottery, &c., regenerative cellular brickwork is used to perfect combustion, and assist in heating several chambers in series.

FIG. 4.



In the modification, Fig. 4, **A** is the fire grate, **B** the combustion chamber, and **H** the muffle or annealing chamber, which is separated from the combustion chamber by a fire-brick arch having downwardly projecting heat retarders or absorbers **C** forming a heat accumulator; the retarders serve to break up and mix the unconsumed gases from the furnace, and, being incandescent, cause their more complete combustion; the chamber **H** is closed by flap doors and adjoins a water jacketed cooling chamber so that articles may be conveyed from one chamber to the other on a travelling chain **22** when it is necessary to prevent oxidation through contact with the external atmosphere. The water jacket surrounding the cooling chambers may be used to generate steam.

In other types, the muffles are built with surrounding flues and are provided with separate passages so that the articles may be either directly exposed to the hot gases, or may be heated without contact, as may be desired.

9 *typed pages*, 3 *claims*; 2 *fols. drgs.*, 7 *figs.*

2426. 1 Feb. *C.a.P.* 27 Oct.

Triumph Plow Company Limited, 22 Currie-street, Adelaide, S.A., agricultural implement manufacturers (*assignees of* W. Bartle, *act. inv.*, Hanson-street, Adelaide, S.A.)

Stump-jump wheeled instruments for crab-hole country.

Class 30.9.

To assist gang-ploughs and large cultivators to follow irregularities of the surface, the frames are divided into forward and rear portions, which are hinged upon a main cranked axle **A** by straps **B** secured to the ends of the frame-bars. The front portion is carried by one or two wheels in the ordinary manner, and an extra wheel is provided to support the back end of the rear portion. The raising and lowering of the frame and plough bodies is accomplished by means of the usual lever (not shown) on the cranked axle. The back wheel is also provided with pulley and chain raising gear operated by a lever.

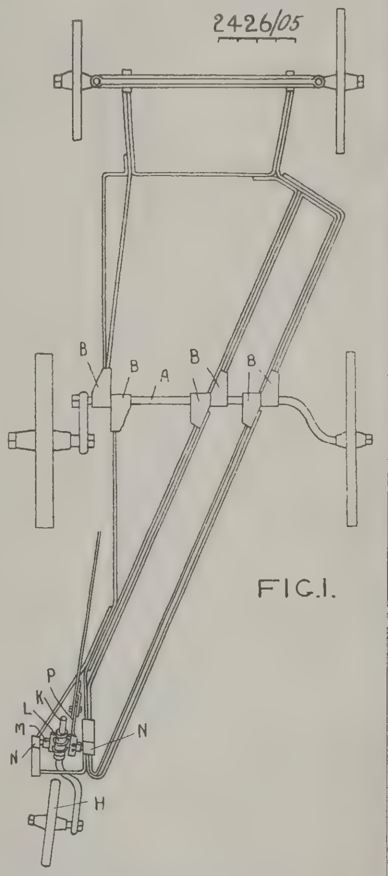

2426/05

FIG.1.

Prov. 3 *typed pages.*

Comp. 5 *typed pages,* 5 *claims;* 2 *fols. drgs.,* 4 *figs.*

2427. 1 Feb. *C.a.P.* 30 Oct. *Application lapsed.*

R. Storr, machinist, and R. D. Goodridge, farmer, Port Broughton, S.A.

Shakers and winnowers for strippers.

Classes 32.3; 32.6.

One or more "lip" sieves, arranged within a hopper box **B**, are mounted within the body of the stripper with a blast fan **C** adapted to operate in conjunction with same. The bottom of the machine is divided into two compartments, one for grain and one for unthreshed heads.

The hopper box **B** is centrally supported upon two shaking eccentrics **FF** on a cross shaft **G** carried in bearings **HH** at the sides of the machine. It may be adjusted by links **K** from a rock-shaft **L**.

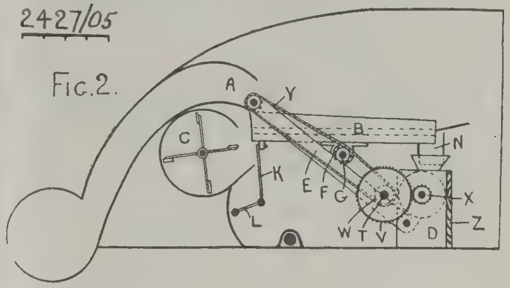

2427/05

Fig.2.

The sieves have combs at the rear which allow the heads to drop through and the long stuff to fall clear of the headings tailboard.

The shaft **G** and spindle of the winnower fan **C** are operated by an external belt from the fly-wheel, the belt passing under the pulley of the eccentric shaft and over the pulley of the fan shaft.

Prov. 3 *typed pages.*

Comp. 6 *typed pages,* 5 *claims;* 1 *fol. drg.,* 5 *figs.*

2428. 1 Feb. The Dixie Match Company (*corp.*), 15 Exchange-place, Jersey City, N.J., U.S.A., match manufacturers (*assignees of* W. H. Parker, *act. inv.*, 109 Howe-avenue, Passaic, N.J., U.S.A., engineer).

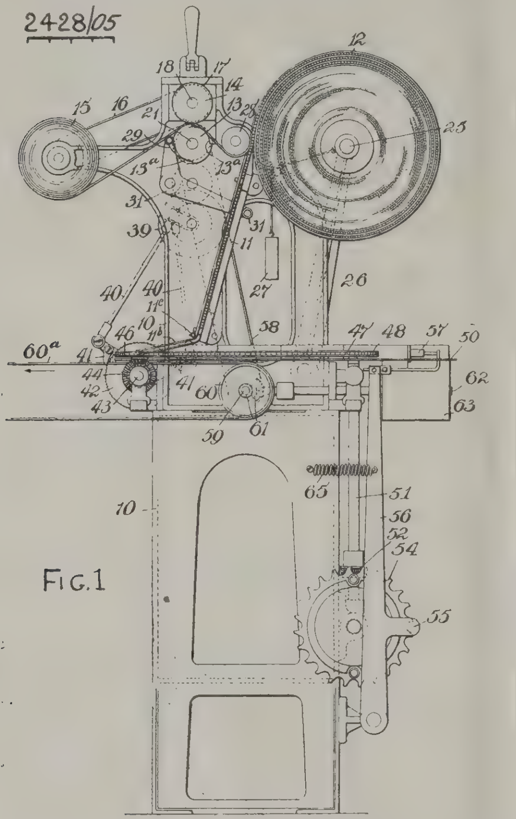
Arranging and boxing matches; coiled web feed.

Classes 20.8; 57.4.

Matches which, in a previous operation, have been assembled between the coils of a rolled tape, with the ends projecting at alternate sides (suitably for dipping), are (after dipping) unrolled and placed in boxes.

The coil **12** is supported on a swinging arm **26**, and is pressed by the weight **27** against a roll **28**; the tape is drawn off by the rolls **13–14** and the matches slide down the shoot **11**, the projecting ends being pushed in by converging lateral cams to reduce the width to the length of a single match.

The foot of the shoot carries a hinged extension **11a** which rests in a string of boxes, carried beneath in a stream between a pair of conveyer chains **47**. The roller **13** has a gap **13a**, so that the delivery of matches is suspended as the ends of the boxes pass under the floating shoot **11a**; and the boxes are fed by an harmonic motion **39–40**, **54–57**, having a similar pause.



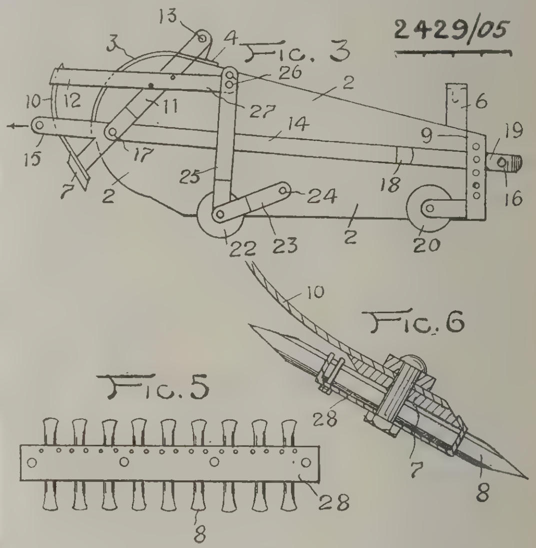
The further operations of packing are not described.

7 typed pages, 5 claims; 2 fols. drgs., 4 figs.

2429. 1 Feb. G. F. Everton, Room 3, Fairfield Block, Vancouver, Brit. Col., Canada, miner.

Wheeled scoop with renewable toothed scraper.
Class 84.3.

The scoop **2** is pulled backward or forward by cables attached at **15** and **16**. The scraper is mounted on a bar **28** (carrying renewable double-ended picks **8**, Figs. 5 and 6), pivoted at **13** to the scoop, and at **17** to the draw-bars **14**, so that they dip into the ground when the bucket is drawn forward, and lift up when the bucket is drawn back. The back wheels **22** are mounted on frame bars pivoted at **24** and **26** to lift when the scraper descends.



11 typed pages, 3 claims; 1 fol. drg., 7 figs.

2430. 1 Feb. W. Thow, Ascot, Dutruc-street, Randwick, N.S.W., engineer, and W. H. Nisbet, Mutual Life of New York Buildings, Martin-place, Sydney, N.S.W., engineer.

Loco. fire-bars shaken when travelling.
Classes 16.8; 95.1.

The fire-bars of a locomotive furnace are moved by the vibration of the axle box or compensating beam; four designs are shown.

Fig. 1 shows a lever **3** resting on the axle box **2** squared at **4** on a rock shaft, having an arm **5** that lifts the bearers **6** and one end of the fire-bars **7**. The lever **3** may be disengaged from the axle box **2** by links **10** to **12**, operated from the cab.

Fig. 7 shows connexions from the compensating beam **14** through the links **15**, **16**, **18**, and **19** to the bar **22**, to which the depending arms **23** of the fire-bars **24** are pivoted. The link **10** disengages the link **15** from the end of the arm **16**.

2430/05

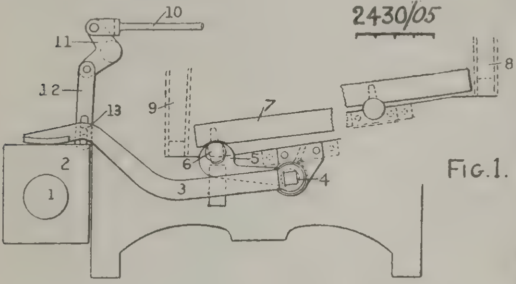


FIG.1.

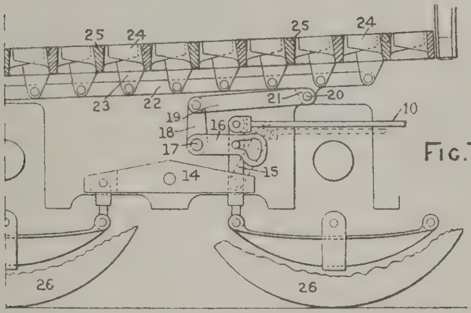


FIG.7.

6 *typed pages*, 7 *claims;* 4 *fols. drgs.*, 10 *figs.*

2431. 1 Feb. *C.a.P.* 31 Oct. *Comp. lapsed.*

A. M. MASTERTON, 69 Newington-road, Marrickville, N.S.W., commission agent.

"Non-slipping wood block pavement."

Class 81.7.

2432. 2 Feb. *Prov. only.*

M. E. WETTENHALL, Glen Holford, Pomona, Stawell, Vic., fruit-grower.

"An improved harvesting machine."

Classes 32.2; 32.3; 32.6.

2433. 2 Feb. A. E. HENDERSON, Washington Loan and Trust Building, Washington, D.C., U.S.A., gentleman.

Roller bearings for car axles.

Classes 60.8; 96.4.

The bearing is adapted to be mounted on the ordinary turned necks of standard axles. The neck **2** is covered by a divided sleeve **7**, which has internal oil grooves **11**, and may slip if the rollers jam.

The inner roller path **17**, and retaining rings **8**, **9** are fitted over sleeve **7**, with stepped diameters to permit the cage **16** and rollers **31** being drawn off endwise.

The bearing rollers **31** are separated by spacer bars **47**, carrying rollers **46**, which tread on the reduced necks **45** of the rollers **31**.

2433/05

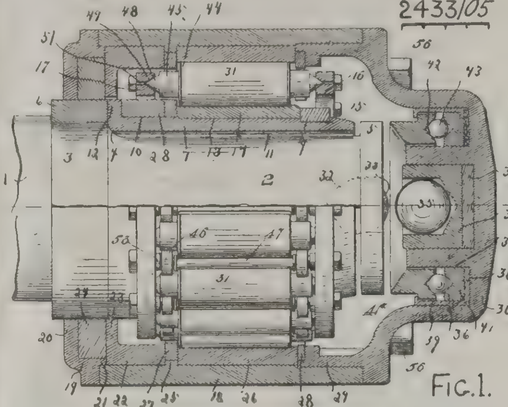


FIG.1.

End thrust is met by a pair of central balls **33**, **35**, mounted in the end of the axle and in a cup **34** backed by a rubber cushion **36**. The external case has rings **27**, **28** which limit the lateral play of the cage, and also a pair of auxiliary thrust collars **41**, **42** which relieve the end friction at extreme range on curves.

16 *typed pages*, 32 *claims;* 2 *fols. drgs.*, 4 *figs.*

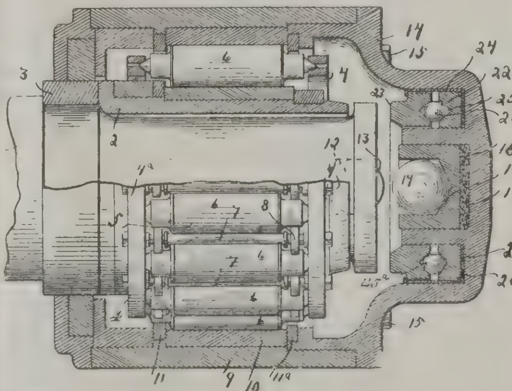
2434. 2 Feb. A. E. HENDERSON, Washington Loan and Trust Building, Washington, D.C., U.S.A., gentleman.

Ball thrust rings for car axles.

Classes 60.8; 96.4.

In roller bearings of the type in the previous abridgment the construction of the auxiliary thrust bearing is again described, the loose ring **23** in this case being shown with a broader surface to meet the end of the axle than in the previous illustration.

Fig.1. 2434/05



11 *typed pages*, 22 *claims;* 1 *fol. drg* 4 *figs.*

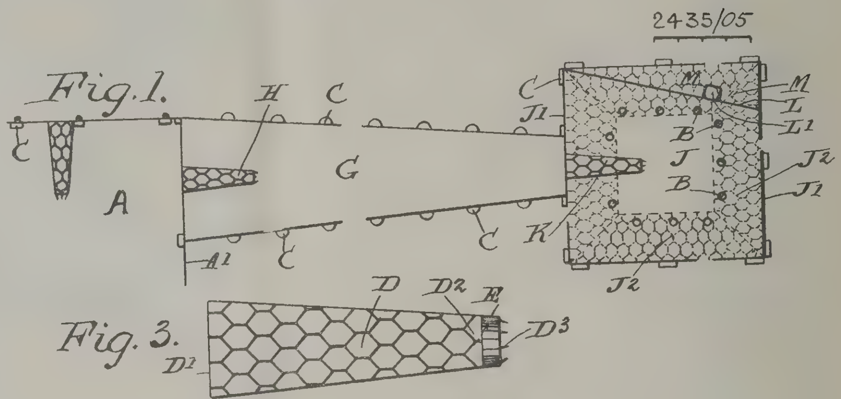
2435. 2 Feb. *C.a.P.* 26 Oct.

E. Silver, Logan, Gladstone, Vic., inventor.

Rabbit enclosure trap; non-return opening.

Class 38.6.

A catching yard of wire netting or other rabbit-proof material has inlet holes provided with coned wire netting entrances **D**. Similar entrances **H** are provided to a race **G** and reception cage **J**, constructed off main enclosure **A**, and a trap is formed in wall **L** for emptying the cage of rabbits. The narrow ends of the entrances **D**, **H**, **K** have a fringe of points **D3**.



Prov. 4 *typed pages.*

Comp. 9 *typed pages,* 3 *claims;* 1 *fol. drg.,* 6 *figs.*

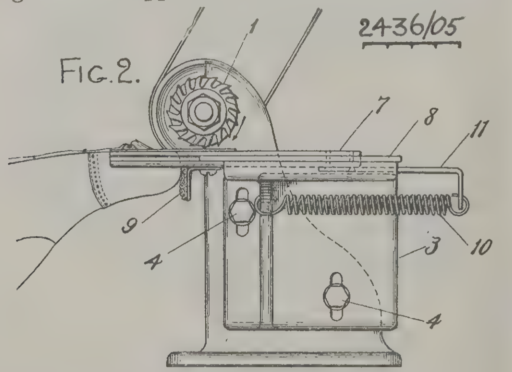
2436. 2 Feb. *C.a.P.* 9 Nov.

United Shoe Machinery Company, 205 Lincoln-street, Boston, Mass., U.S.A. (*assignees of* O. Ashton, *act. inv.*, Lawrence, Essex, Mass., U.S.A., machinist).

Rotating cutters and guides for trimming lasted shoes.

Class 44.5.

In a machine for trimming off the projecting edges of the upper and lining at the toe of a lasted boot, a revolving cutter **1** is mounted on a frame, on which is a bracket **3** which can be adjusted vertically and locked by set screws **4**. A rest **7** slides on the bracket **3** and is normally kept extended by a spring **10**, but slides in on pressing the boot toe against a pad **9**. The boot is held up below an opening in a gauge-plate which prevents too deep a cut.



Prov. 5 *typed pages.*

Comp. 11 *typed pages,* 11 *claims;* 2 *fols. drgs.,* 7 *figs.*

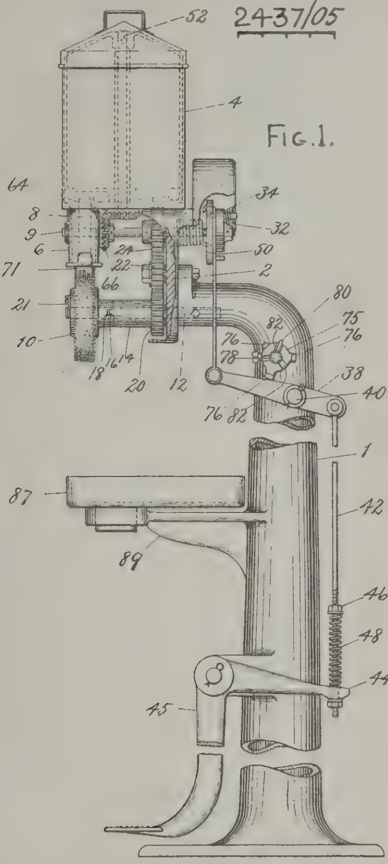
2437. 2 Feb. *C.a.P.* 9 Nov.

United Shoe Machinery Company, 205 Lincoln-street, Boston, Mass., U.S.A. (*assignees of* O. Ashton, *act. inv.*, Lawrence, Essex, Mass., U.S.A., machinist.

Spreader and brush for "box-toe" gum.

Class 44.5.

The gum reservoir **4** has a revolving stirrer and feeder which forces the gum against a feed wheel **8** projecting through a slot in the reservoir bottom and revolving in a pendant pocket **6**. The lower portion of this wheel is in contact with a presenting brush wheel **10**, rotated oppositely for a portion of a revolution each time a foot lever **45** is depressed, which also operates (by ratchet wheel and pawl **32**) the feed wheel and stirrers.



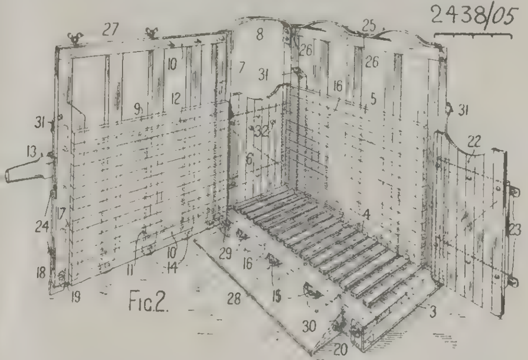
Prov. 13 *typed pages.*
Comp. 19 *typed pages,* 17 *claims;* 2 *fols. drgs.,* 6 *figs.*

2438. 2 Feb. G. T. Macfarlane, 139 Queen-street, Woollahra, N.S.W., Royal Indian marine.

Hoisting box for shipping horses; side and end opening.

Classes 39.3; 91.8.

To facilitate the shipment of nervous horses, instead of the box having end entrances only, one side **9** and one end **22** are hinged on posts at opposite corners and locked at the meeting corner, where there is no post to obstruct the entry of the animal. There are suitable straps with wing-nut fastenings to bridge the top and secure the corners after closing.



A detachable ramp **28** may be hooked against the base at the side, and a lever **13**, sliding in staples of the movable side **9**, may be drawn out to close the box forcibly against the animal as soon as its head is pulled near the end **6** by a halter passed through the hole **32**.

Prov. 2 *typed pages.*
Comp. 6 *typed pages,* 5 *claims;* 1 *fol. drg.,* 2 *figs.*

2439. 2 Feb. *Prov. only.*
T. Burrell, 193 Abbotsford-street, North Melbourne, Vic., mechanic.

"Improved elastic tread-piece for boots and shoes, including horse shoes."

Class 44.3.

2440. 3 Feb. A. R. Robertson, c/o Watson, Laidlaw & Co., Dundas-street (S.), Glasgow, North Britain, engineer (*communicatee of* J. Heinrich, *act. inv.,* F. Dierks, *act. inv.,* and C. J. Möllmann, *act. inv.,* all of Osnabruck, Germany).

Annular slotted holders for removable creamer blades.

Class 36.6.

The spiral blades **B** are stringed or threaded on to rings **A** by the slots **C**, and the nest is put into the bowl with or without an enclosing cage. The rings **A** are of T or L or other suitable section, and have gaps **D** cut in the flanges of the rings to allow the plates **B** to be threaded on. The plates may be readily and easily threaded off the rings or they may be opened out to leave space for cleaning purposes.

6 typed pages, 3 *claims;* 1 *fol. drg.,* 7 *figs.*

2440/05

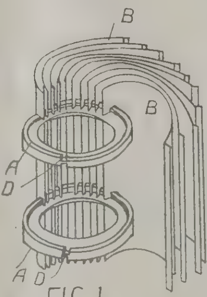


FIG. 1.

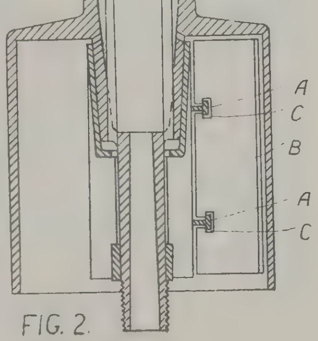


FIG. 2.

2441. 3 Feb. *Prov. only.*

J. E. H. Grose, Glencairn Gold Mining Company, Limited, Witwatersrand Gold Fields, Transvaal, S.Af., fitter.

"Improvements in and appertaining to the valves of rock-drilling machines."

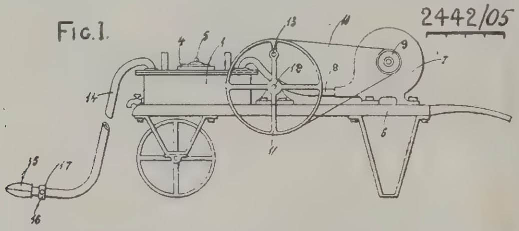
Classes 65.9; 85.4.

2442. 3 Feb. B. Locking, Tennyson-street, Napier, Hawkes Bay, N.Z., medical practitioner.

Fumigating rabbits with CO_2 and SO_2; weed destroying.

Classes 31.5; 38.9.

The combustion chamber **1**, in which the charcoal and sulphur is burned, has a water jacket with a charging cover **5**. A fan **7** supplies air through a tube **8**, and the gases are delivered through a flexible metal tube **14** with a conical wire shield **15** to protect the end from choking with earth. The whole apparatus is mounted on a barrow **6**.



5 *typed pages*, 4 *claims*; 1 *fol. drg.*, 3 *figs.*

2443. 3 Feb. *Prov. only.*

A. Monnington, Ferry House, Somerset, Burnie, Tas., solicitor.

"An improved form of tube to be affixed to a receptacle for transferring kerosene or other liquids."

Class 22.4.

2444. 3 Feb. *Prov. only.*

E. J. Chandler, 28 Lindsay-street, Perth, W.A., electrician.

"Improved electro medical belt."

Class 87.8.

2445. 3 Feb. *Prov. only.*

D. C. Smith, electrical engineer, and R. B. Nicolson, mine manager, both of Kalgoorlie, W.A.

"Improved automatic filter press."

Class 28.2.

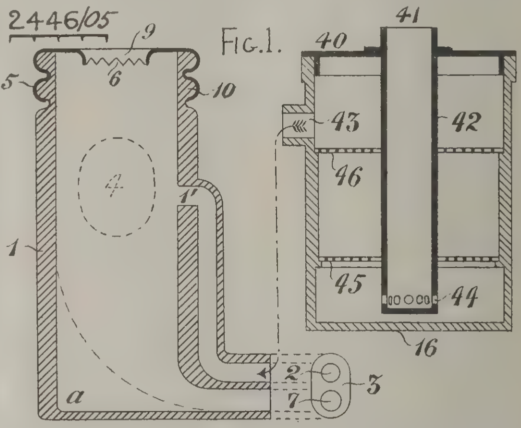
2446. 3 Feb. J. and J. P. McGinness, "River View," Framlingham, Vic., dairymen.

Teat-cups; air sterilizing filters.

Classes 36.1; 90.9.

The cup is made strong enough to prevent collapse in operation and portions **4** of its walls are made thinner for flexibility. Its upper part **10** is corrugated to retain a flexible rubber cap **5** provided with a serrated opening **9** to catch the teat softly. The vacuum inlet tube **2** is formed integrally with the wall of the cup, and continued to form a united piece **3** with milk outlet **7**.

The sterilizing chamber **16** has a lid **40** having an air inlet tube **42** with perforations **44**. Perforated plates **45**, **46** are located at suitable distances from the bottom to form two chambers—the upper receiver has cotton wool as a filtering medium, the lower may contain formalin or other sterilizing chemical. The exit **43** is connected to the piece **3**.



5 *typed pages*, 14 *claims*; 1 *fol. drgs.*, 4 *figs.*

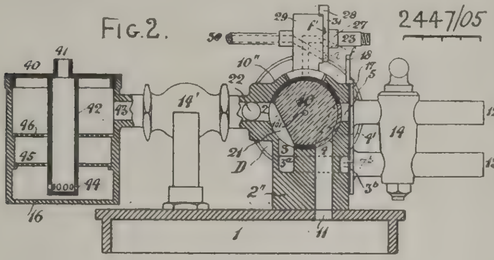
2447. 3 Feb. J. and J. P. McGinness, "River View," Framlingham, Vic., dairymen.

Pulsating motor for milking machines.

Classes 36.1; 65.4.

The pulsating motor is contained in a block **2**″ mounted on the cover of the milk bucket **1**; a long bodied piston **10** has cup leathers at each end and ports formed on its length which co-operate with ports near the middle of the cylinder; axial ports in the piston body connect the end chambers with certain ports to produce reciprocation; the piston carries a bracket **29** projecting upwardly through a slot in the cylinder, and on the bracket a multi-way reciprocating disc-valve **28** is fitted, having a lever (not shown) which is thrown over at each stroke by contact with fixed stops outside the cylinder, and is held over by a weight on its upper end.

FIG. 2.



The air enters through the filter **16** (described in 2446/*05*) and passes to the teat cups by the pair of pipes **12, 13**; the ports are arranged to give a spray of air at the side of the teat cup as shown in 2446/*05*.

10 *typed pages*, 13 *claims; 2 fols. drgs.*, 11 *figs.*

2448. 3 Feb. *Prov. only.*

A. McLeod, 21 Hobbs-street, Footscray, Vic., machine fitter.

"An improved oil or gas engine."

Classes 64.8; 66.2.

2449. 3 Feb. A. S. Patterson, c/o Massey-Harris Co., 570–576 Bourke-street, Melbourne, Vic., manager (*communicatee of* L. M. Jones, R. H. Verity, and C. McLeod, all *act. invs.*, of 915 King-street West, Toronto, Canada, manufacturers.

Cutter-bar mountings for mowers and reapers.

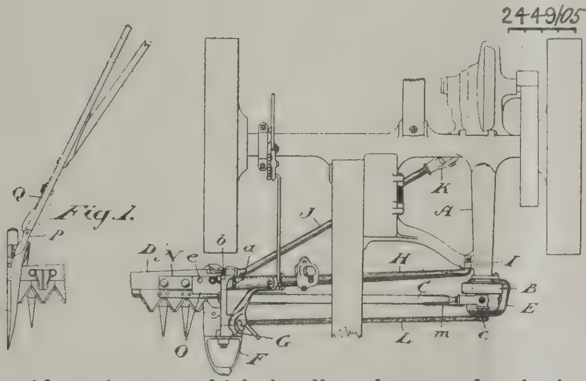
Class 32.2.

1. The cutter-bar **D** is attached to a casting or frame **G**, which is flexibly linked to the main carriage **A** by two bars, **H, J**, which are attached by jaws, eyes, or pins for easy removal; the inclined bar **J** has a screw in the jaw **K** to adjust the direction.

2. The guides for the heel of the knife-bar are the upper surface of **D**, the rear plate **N**, and the upper plate **O**, the latter having holes **e** so located that it may be reversed when partly worn. The plate **N** has a projection which prevents the knife falling when the bar is turned up for travelling.

3. The crank-disc **B** works inside a sheet metal guard **E**, the outer side of which carries one end of a guard-bar **L** that extends in front of the connecting rod **C** to the casting **G**.

4. The connecting rod or pitman **C** is adjusted by screwing into the head, and is prevented from extreme rotation by the side spring **m**, which is allowed some play in its notch to prevent binding on the crank or knife pins.



5. The swathe-board shoe **R** is jointed, and may swing both vertically and laterally under spring control, to clear obstructions.

13 *typed pages*, 15 *claims; 2 fols. drgs.*, 7 *figs.*

2450. 3 Feb. I. M. Smith, 11A Peterborough-street, Christchurch, Canterbury, N.Z., commission agent.

Application under Sec. 7, patented in—

N.S.W. ... 13,914 ... 14th April, 1904.

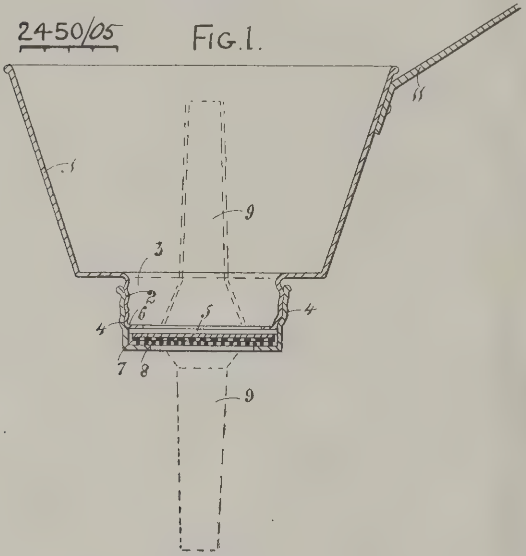
Convertible saucepan funnel or strainer.

Class 24.7.

The saucepan **1** has a large screwed open neck **2** in the bottom, for use as a wide funnel for filling preserve jars, &c,

A smaller neck **9** may be connected (by a loose screwed collar **4**), either in the downward position for filling bottles, or upwardly as a lamp flue for boiling.

2450/05 Fig. 1.



The neck **2** may also receive a blank disc **5** for closure, or may have coarse or fine perforated discs for straining.

4 *typed pages*, 4 *claims ;* 1 *fol. drg.*, 5 *figs.*

2451. 3 Feb. *C.a.P.* 18 Oct.

D. W. Adams, 1210 Niagara-street, Buffalo, N.Y., U.S.A., manufacturer.

Fire-proof curtain; mountings and fusible trigger.

Class 88.4.

The curtain is divided horizontally into sections or slats which slide together as the curtain is raised, each section lifting that above it by means of studs or bolt heads **7**, Fig. 5, which slide in channels or slots on the next section. The sections are made of asbestos sheets, stiffened by edge wires **i**, and the slots are formed in sheet-metal strips **e** riveted vertically on the sheets.

The whole curtain slides in lateral guideways **B**, which are tapered by a strip **J** to receive the gradually decreasing thickness of the curtain, as its slats are successively lowered.

The curtain is raised by bands or cords **K1** (attached to the lowermost slat) winding on the drum **K** which is operated through bevel gear by a hand crank placed in any convenient position.

2451/05

Fig. 2.

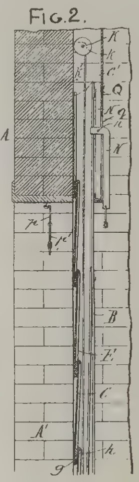
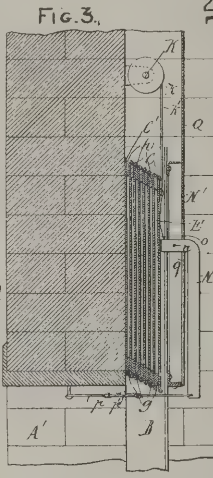


Fig. 3.



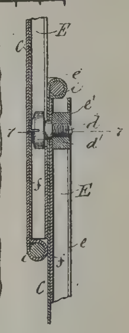


Fig. 5.

The curtain is held in its raised position perferably by a bent lever **N**, the depending arm of which is normally held in position by the wire **p** with a fusible link **p1**, so that when the link is fused the curtain descends to the position shown in Fig 2.

Prov. 6 *typed pages.*
Comp. 9 *typed pages,* 8 *claims ;* 2 *fols. drgs,* 7 *figs.*

2452. 3 Feb. *C.a.P.* 27 Mar. *Comp. lapsed.*

R. H. Simon, and W. R. Garner, both of Railway Reserve, Leongatha, Vic., plumber and engineer, respectively.

"Improved cream cooler."

Class 36.3.

2453. 4 Feb. G. T. ADAM, farmer, and R. St. C. MCKENZIE, traveller, both of 183 Hereford-street, Christchurch, Canterbury, N.Z.

2453/05

Breeching hook and ring.

Classes 39.6; 93.7.

A breeching hook **b** is secured by a palm **c** to the underside of a shaft **a**, has a point sufficiently near the palm to just admit the passage of a triangular breeching ring **d**, and is sagged so as to present a steep upward incline from the root towards the point.

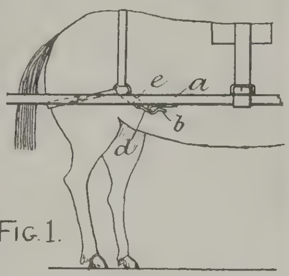


FIG. 1.

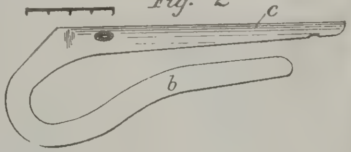


Fig. 2

4 typed pages, 1 claim; 1 fol. drg., 4 figs.

2454. 4 Feb. *C.a.P.* 3 May. *Application lapsed.*

E. H. DAVIES, "Oakville," Centre-road, East Brighton, Vic., gentleman.

Flexible scale armour for tires.

Class 97.8.

Elastic metal plates or scales, whose edges overlap, are turned up at their ends to form a circumferential groove on each side of the tire, and are securely clamped by wire rings tightened by union screws.

Prov. 2 MS. pages.

Comp. 3 MS. pages, 1 claim. No drawing.

2455. 4 Feb. *C.a.P.* 4 Nov.

H. T. GRIFFITHS, 1 Geddes-street, Ascot Vale, Vic., engineer.

Rotating brushes; metal mountings for bristles.

Classes 25.8; 44.5; 75.6.

The boss **B** is made in two parts of cast metal divided along a diameter with lateral lugs **b1** for clamping on the spindle. The space **B1** into which the hair or bristle **A** is secured by plaster and glue is made narrower at the outside than at the root to prevent the bristles from falling out.

2455/05

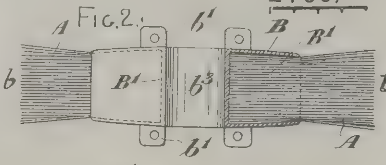


FIG. 2.

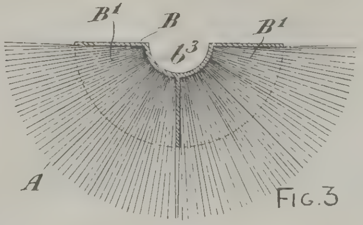


FIG. 3

Prov. 1 MS. page.

Comp. 3 typed pages, 2 claims; 1 fol. drg., 3 figs.

2456. 4 Feb. *Prov. only.*

R. J. HARVEY, 2 Egerton-road, Malvern Vic., warehouseman.

"An improved wording method for use on music rolls."

Class 01.6.

2457. 4 Feb. J. F. OHMER, 26 East First-street, Dayton, Ohio, U.S.A., manufacturer.

Conductor's ticket-issuing and recording machine.

Classes 50.7; 54.2; 56.2.

The case is carried by a shoulder strap, and, on depressing the thumb lever **6**, Fig. 3, the paper strip standing in the slot is punched by the connexion of the link **23** and rock-shaft **20**; on the spring-return the punched strip is drawn forward by the roller **35** to the position **17**, convenient for tearing. The feeding pawl **30** jams against the stop **52** to prevent over-running by inertia and consequent irregularity of the length of ticket fed out. The punch **15** is mounted on the arm **13** from the axis **8**, and may be set to right or left by the milled head **12** to indicate on a ticket, such as in Fig. 15, the direction of the journey. The bell lever **46**, Fig. 4, is dropped as each tooth of the wheel **43** passes under it on the return stroke. The counter-gear **41** is also moved one integer.

Two or more of these apparatus may be combined in the same casing, with single or independent counters, records of the numbers borne by the tickets being necessary in the former case to secure a complete check.

wheel **65** fixed to the unit wheel of the group **55**, the direction-wheel **56** being set by a rod **68**, the lower end of which can be pivoted at one of four points on a wheel, and the upper end is connected by linkwork to the punch-setting arm **13**, Fig. 3, whereby it is moved longitudinally. Rotation of the axis **80** causes the inking-roller **72** to be swung by suitable linkwork across the type in the printing position, and the cam **85** then lifts the lever **83** and forces the platen **82** thereon against the type, the record paper **86** intervening.

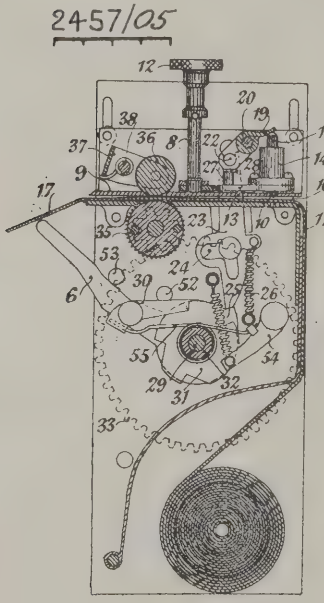


FIG. 3.

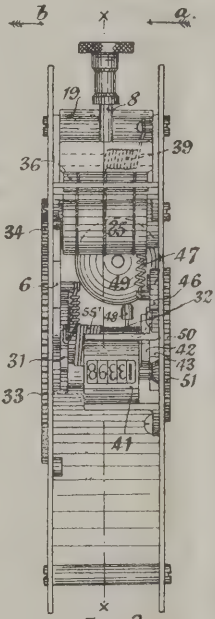


FIG. 2.

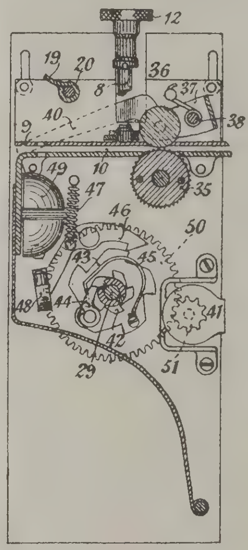


FIG. 4.

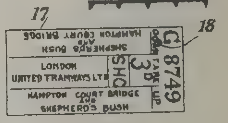


FIG: 15.

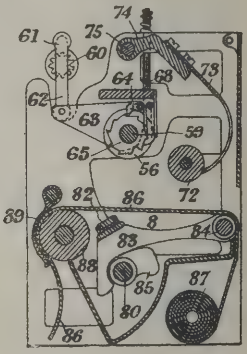


FIG: 13.

Fig. 13 shows an additional printing attachment by which an impression is taken at will by rotating a milled head on the axis **80**. The spindle **59** carries printing-wheels **56**, &c., carrying type for recording the direction or journey, the counter number, the month, and the date respectively, the two last wheels being mounted on sleeves which are set by external milled heads; the spur-wheel **50** drives a pinion **60**, crank, connecting-rod **62**, and the lever **63** carrying a pawl **64** in gear with a ratchet-

A second cam upon the spindle **80** drives a mutilated gear wheel on the feed roller **88**, against which the paper is pressed by the plate **89**, a milled head on the axis of **88** being used to draw off a length of the record. When more than one apparatus is attached to the same sets of total-counting and printing wheels, pivoted T-shaped lever-locks are used to prevent depression of more than one lever at a time.

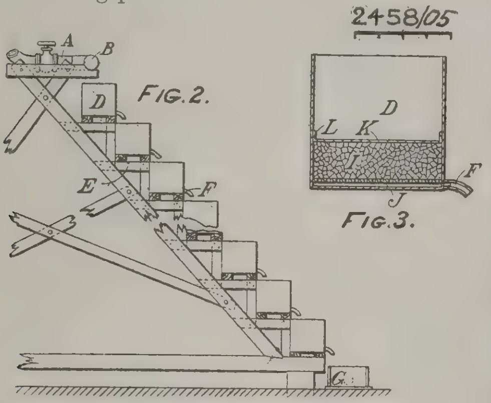
16 *typed pages*, 7 *claims*; 5 *fols. drgs.*, 16 *figs*

2458. 4 Feb. T. W. Clark, Sadowa Cyanide Works, Talbot, Vic., cyanider.

Terraced charcoal precipitating plant for cyaniding.

Classes 14.4; 14.7.

A series of 120 filter-like boxes **D** are arranged in eight rows on shelves **E**, each shelf being slightly in advance of the one above it, so that the whole forms a series of steps. The boxes have wooden false bottoms **J** covered with hessian, and filled to a depth of 3 inches with charcoal **I**, over which is a perforated distributing plate **K**.



The cyanide solution is fed through a main pipe **B** to the top row of the series, and is equally distributed over the 15 boxes in each row in turn till it is collected in a trough at the bottom.

6 typed pages, 4 claims; 1 fol. drg., 4 figs.

2459. 4 Feb. *Prov. only.*

J. T. Sweetman, Rupanyup, Vic., farmer.

"Improvements in wire-fastening devices, applicable to fence droppers."

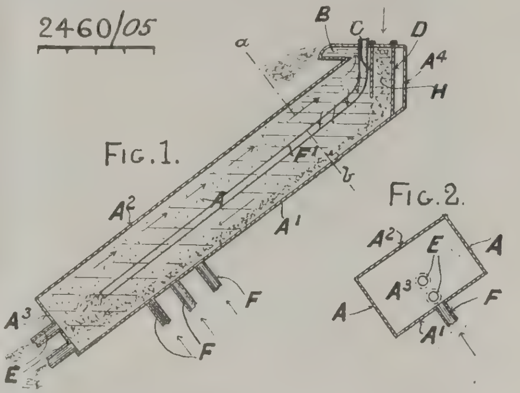
Classes 58.3; 81.8.

2460. 4 Feb. The Broken Hill South Silver Mining Company No Liability, 31 Queen-street, Melbourne, Vic. (*assignees of* W. W. Wainwright, *act. inv.*, Broken Hill, N.S.W.)

Trough for separating gas floated ore particles.

Class 12.4.

The ore and chemical liquid are fed into a vessel having a front plate or roof **A2** parallel to an inclined back plate **A1** along which the falling ore travels. The vessel may have either a rectangular (as Fig 2), circular, semi-circular, or semi-triangular transverse section, and has boards **C**, **D** near its top between which the ore is fed.



Chemical liquid is fed at **D**, and also at stirring inlets **F**, and pipe **F1**; the tailings pass away at outlets **E** at the bottom, and the floated metallic particles overflow at the discharge lip **B**.

Prov. 4 typed pages.
Comp. 8 typed pages, 5 claims; 1 fol. drg., 8 figs.

2461. 4 Feb. *Prov. only.*

J. Clarke, 104a Flinders-street, Adelaide, S.A., bootmaker.

"Improved revolving leather and rubber cushion heel for footwear."

Class 44.3.

2462. 6 Feb. *Comp. lapsed.*

W. H. Hunt, plumber, c/o J. Jackson, 549 Collins-street, Melbourne, Vic.

"A self-acting disinfector, for flushing cisterns of all makes and sizes, and kindred purposes."

Class 86.2.

2463. 6 Feb. *Prov. only.*

H. Taylor, 430-8 Rae-street, North Fitzroy, Vic., aerated waters manufacturer.

"An improvement on internal stoppered bottles for carbonated beverages."

Class 57.5.

2464. 6 Feb. J. F. OHMER, 26 East First-street, Dayton, Ohio, U.S.A., manufacturer.

Conductor's transfer-ticket machine.

Classes 50.7; 54.2; 56.2.

The apparatus in 2457/05 is modified by the addition of perforators for indicating additional data. The punches are actuated simultaneously by means of the linkage **15**, **20**, **31**, **46**, **51**. The sockets **22** of the perforators are movable by means of the arms **23**, which pass through slots in the casing and are provided with buttons **25** and pointers **26**, and are held by spring-plates **32** or otherwise. The punches leave the pieces adhering on one side to the ticket, to be folded back as they leave the machine.

Instead of each single movable punch, a series of stationary punches may be employed with a movable actuator.

The ticket, Fig. 2, has the data for issue on one line and transfer to another, viz.: the time on lines **A** and **B**, the direction on line **C**, the terminus of the section on line **G**, the day of the month on lines **D**, the month on line **E**, and the time, a.m. or p.m., on line **F**; it may also be used with other checking machines.

2464/05

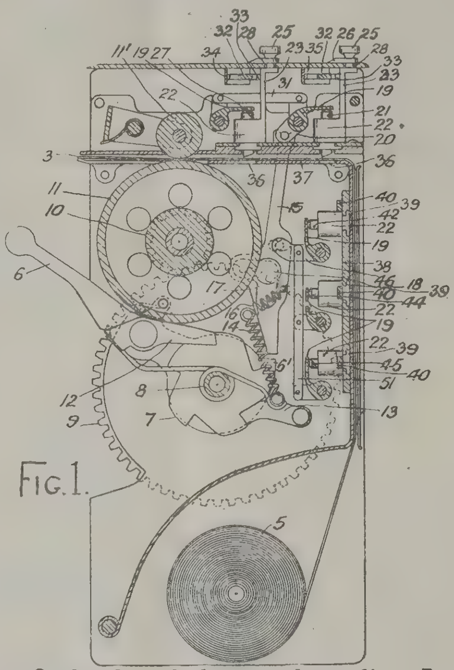


FIG. 1.

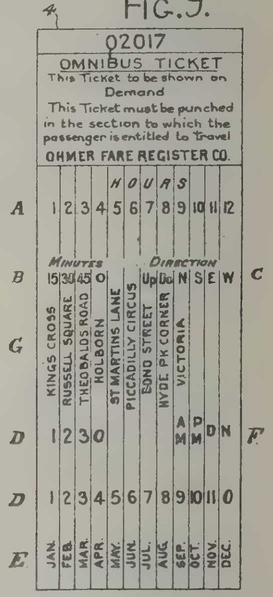


FIG. 9.

13 typed pages, 4 claims; 4 fols. drgs., 10 figs

2465. 6 Feb. *Prov. only.*

W. W. HARKINS, dentist, and M. J. SMITH, hairworker, 1 Drummond-street, Carlton, Vic.

"An improved nut lock."

Class 78.4.

2466. 6 Feb. *Comp. abandoned.*

W. JENNINGS, King William-street, Greenwich, N.S.W.

Application under Sec. 7, patented in—

Tas. ... 3223 ... 1st November, 1901.

"Improved means for removing river bars, dredging harbours, &c., and making canals."

Classes 82.2; 84.8.

2467. 6 Feb. *C.a.P.* 23 Mar.

D. NABLE, Church-street, Waverley, N.S.W., tailor.

Licence to H. Bull & Co. Ld., Sydney, N.S.W., registered, pg. 259, Vol. 4.

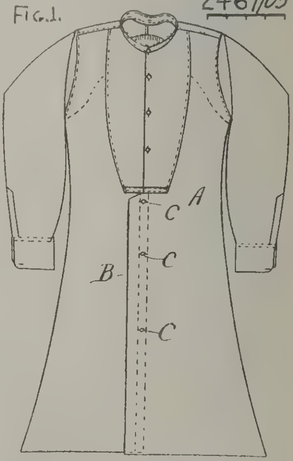
Coat shirt, with buttoned skirt.

Class 43.3.

The skirt **A** is divided in front and has one of its sides **B** overlapping the other, and is provided with studs or buttons **C C** to secure the two sides in their relative positions.

2467/05

FIG. 1.



Prov. 2 typed pages.
Comp. 3 typed pages, 2 claims; 1 fol. drg., 1 fig.

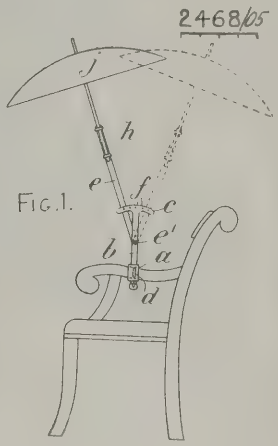
2468. 6 Feb. D. McBean (*jun.*), Moothumbil Station, Nymagee, N.S.W., station overseer.

Umbrella holder for vehicles, seats, &c.

Classes 44.8; 45.1; 93.9.

A **U**-shaped clamp-bracket **a** is clamped by set-screws **d** to a buggy seat or the like. A flat upright bar **b**, socketed in **a**, has its upper end slotted at **c** to which a bar **e** pivoted at **e1** may be pinned at any angle; the upper end of the bar **e** has two hooks and thumb-nuts **h** for holding the umbrella **j**.

3 typed pages, 2 claims; 1 fol. drg., 2 figs.



2469. 7 Feb. G. J. Cox, Campbell-road, Balwyn, Vic., gas engineer.

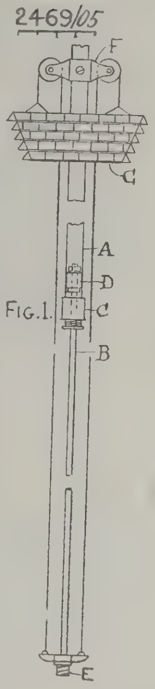
Telescopic counter-balanced gas fittings and reflector.

Class 22.5.

The fixed gas tube **A** is provided at its lower end with a stuffing-box **C**, in which works the telescopic tube **B**, having a cross-head **E** at its lower end to which cords or wires are attached passing over the pulley wheels in the bracket **F** on the main pipe **A**; the other ends of the cords carry a counter balancing reflector composed of a number of glass prisms on a metal frame.

Two modifications of the invention are shown.

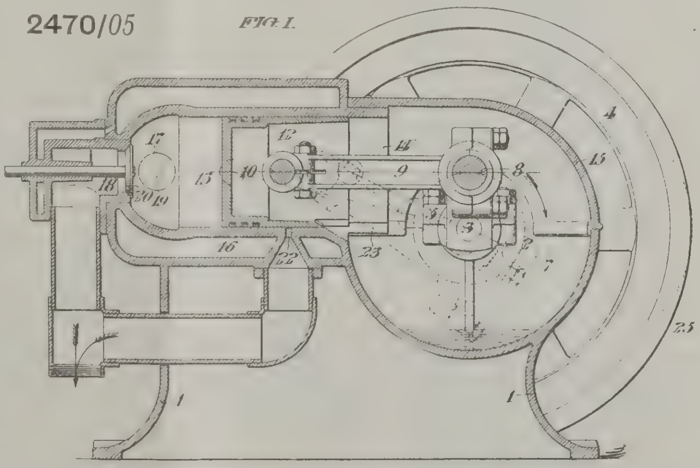
9 typed pages, 2 claims; 1 fol. drg., 3 figs.



2470. 7 Feb. R. H. Ramsey, 56 West Chelton-avenue, Germantown, Philadelphia, Penn., U.S.A., engineer and inventor.

Crank action for explosive engines; fast return.

Classes 64.2; 66.2.



The cylinder axes are tangential to the crank path; the connecting rods are less than four times the crank radius, and may be curved to clear the piston and cylinder, or they may be slotted, the stroke being slightly greater than twice the crank radius.

In Fig. 1, a four-stroke cycle engine having an auxiliary exhaust port is placed within the excess portion, the primary exhaust being at the closed end of the cylinder, while in that shown in Fig. 2 the exhaust port portion is within the excess. The crank-pin, piston, &c., are lubricated by splashed lubrication, the cylinder projecting into the casing to avoid excess.

In Fig. 2, a two-stroke cycle engine has the crank casing **7** used as a reservoir, the inlet to the cylinder being shown at **21**.

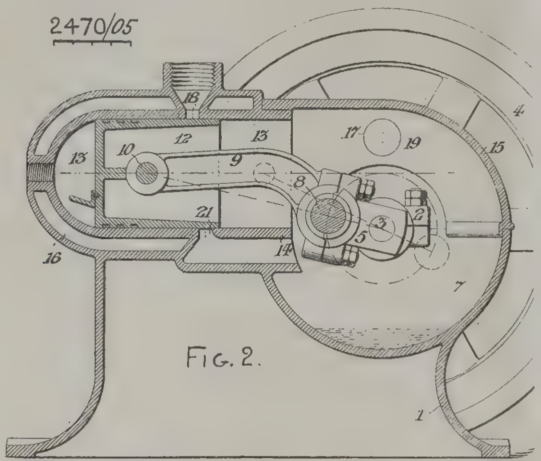


FIG. 2.

An arrangement having cross-heads is also described.

The invention is applicable to steam-engines.

36 *typed pages*, 12 *claims*; 4 *fols. drgs.*, 6 *figs.*

2471. 7 Feb. H. Harris, Nelson, Brit. Columbia, Canada, superintendent of smelter.

Assignment to Hall Mining and Smelting Co. Ld., London, Eng., registered pg. 376, Vol. 4.

Fore hearth and slag well for matte furnaces.

Class 16.6.

The apparatus consists of a trough-shaped receptacle for continuously withdrawing molten matte and slag from a smelting furnace, and distributing them in separate streams. A receiving trough **19** is in direct communication with the slag-outlet **5** of the matte-furnace. The sides **7** of this trough are high enough to retain the desired depth of matte and slag within the furnace. A second trough **20** is divided from **19** by a partition **12**, which has a hole **13** at the bottom through which the matte will pass, and overflow through a spout **15**; while the slag is retained in the trough **19**, and overflows from a similar spout **14** in its upper edge.

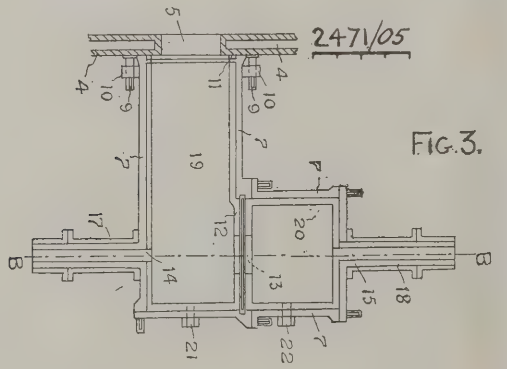


FIG. 3.

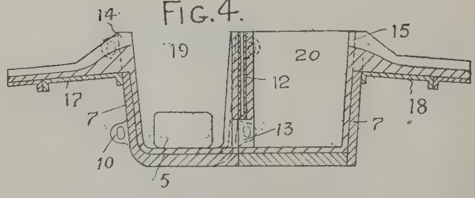


FIG. 4.

11 *typed pages*, 3 *claims*; 1 *fol. drg.*, 4 *figs.*

2472. 7 Feb. *C.a.P.* 30 June.
R. J. Thomas, engineer, and W. F. S. Howe, analytical chemist, Mossman, Qld.

Electrolytic clarification of sugar juice.

Classes 07.5; 33.1.

The juices are submitted to the action of an electric current in an open vat **A**, maintained at a boiling temperature by steam pipes **B**, or otherwise. Iron or platinum electrodes **C** and **D** are arranged in the vat in the body of the juice.

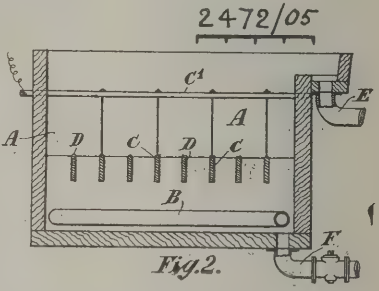


Fig. 2.

Prov. 2 *MS. pages.*
Comp. 4 *typed pages*, 2 *claims*; 1 *fol. drg.*, 4 *figs.*

2473. 7 Feb. *Prov. only.*
H. Taylor, 430–438 Rae-street, North Fitzroy, Vic., aerated waters manufacturer.

"A screw cap for internal stoppered bottles for carbonated beverages."

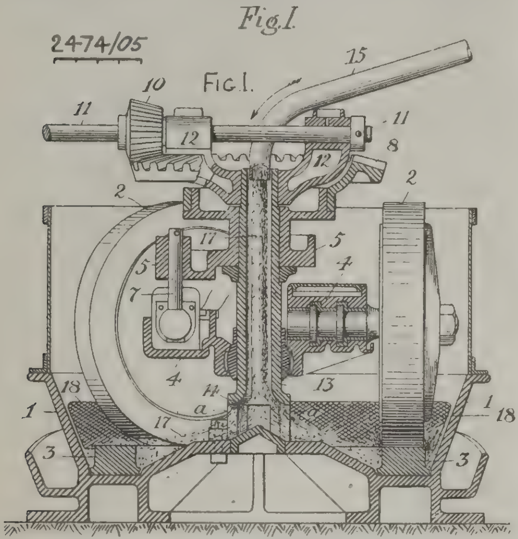
Class 57.5.

2474. 7 Feb. G. Johnston, San Francisco, Cal., U.S.A., engineer.

Edge-rollers and pan; central ore feed.

Class 10.3.

Three or more edge runners **2**, have long gudgeons at the inner side only, which work in radial bearings **4**, mounted on a central frame that has a spherical support on a sleeve around the central spindle. The central spindle is hollow, the ore and water being fed from a central pipe **15** and emerge from the hollow shaft at lateral passages **14** near the path of the crushing rollers, so that all the material will cross the path before reaching the discharge screens **18**.



The mill may be driven either from above or below.

4 *printed pages*, 1 *claim*; 2 *fols. drgs.*, 3 *figs.*

2475. 7 Feb. Henry R. Worthington (*corp.*), 114 Liberty-street, New York, U.S.A. (*assignees of* F. Ray, *act. inv.*, East Orange, Essex, New Jersey, U.S.A., mechanical engineer.

Air pump and condenser system; air separating centrifugals.

Classes 63.8; 68.7; 69.4.

A centrifugal or turbine pump used in a condenser system is formed with air-discharge pipes on both the suction and discharge sides. The water from the receiver **E**, Fig. 2, of the condenser **A**, is led by the pipes **F** to the pump **G**, and, passing around the baffle **13**, Fig. 3, allows any air present to pass by the pipe **12** to the pipe **I**. The pipe **16** on the delivery side has a valve for occasional communication with the pipe **I**.

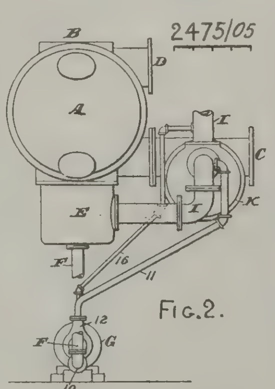


FIG.2.

The air pipe **I** serves for the passage of air and uncondensed vapours from the receiver **E** to the supplementary condenser, which communicates with the receiver **E** by means of a small pipe, and thence to the air pump.

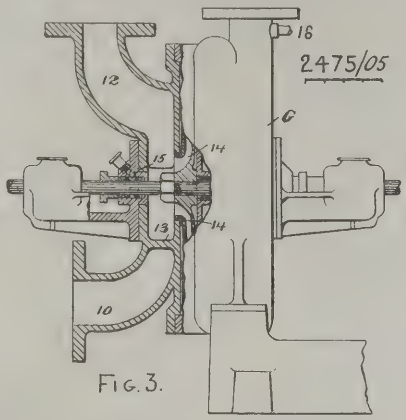


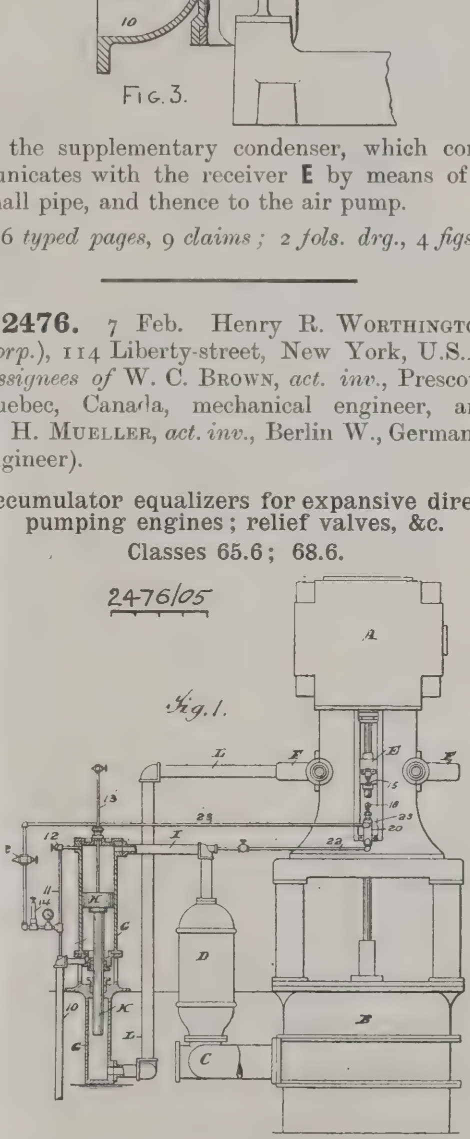
FIG.3.

6 *typed pages*, 9 *claims*; 2 *fols. drg.*, 4 *figs.*

2476. 7 Feb. Henry R. Worthington (*corp.*), 114 Liberty-street, New York, U.S.A. (*assignees of* W. C. Brown, *act. inv.*, Prescott, Quebec, Canada, mechanical engineer, and O. H. Mueller, *act. inv.*, Berlin W., Germany, engineer).

Accumulator equalizers for expansive direct pumping engines; relief valves, &c.

Classes 65.6; 68.6.



To prevent undue fluctuation in the length of stroke in direct-acting pumping-engines provided with compensating accumulators, &c.,

the compensating-cylinders **F**, **F**, Fig. 1, are connected by the pipe **L** to the accumulator **G**, the plunger **K** being loaded by compressed air from a tank through pipe **10**, the upper side of the piston **H** being connected to the air-chamber **D** on the force-main **C**.

The pipe **10** is also connected by a pipe **11** (through a throttle-cock **12**) to the upper end of the cylinder **G**, and through a valve **20** with the air-chamber **D**, by pipes **22**, **23**. The valve **20**, when the stroke is too long, is lifted by an adjustable tappet **15** on the engine cross-head **E**, Fig. 3, and the pressure increases under the piston **H**, which lessens the force in the compensating-cylinders. The amount of air that thus passes from the air-chamber to the accumulator cylinder below the piston (when the valve is opened by the tappet), depends upon the length of time the valve is open, which again depends on the length of engine stroke. Leakage by the needle valve **2** from the pipe **23** supplying pressure on the lower side of the piston, and tending to lower the compensating pressure, is provided so as to gradually reduce the back pressure in case the tappet **15** does not reach the valve **20**.

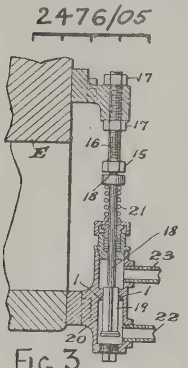


Fig. 3.

An alternative arrangement is used for engines having only one double-acting compensating-cylinder and no accumulator. The compensating piston rod is connected by toggle links to the engine frame at mid-stroke, and the middle pin of the toggle slides in a cross-slot on the engine cross-head. The compensating piston has a port, which is uncovered at each end of the engine stroke, and relieves the compensating effort, which is supplied by adjustable fluid supplied below the compensating piston. There is also a leakage valve on the upper side of the compensating cylinder. The stroke of the main piston will vary until the escape by the leakage valve is equal to the escape through the port in the compensating piston.

Several variations are mentioned.

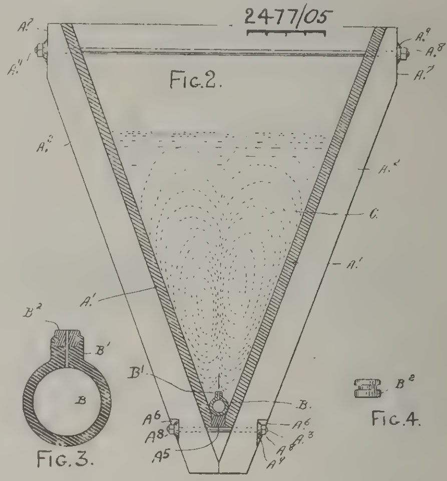
15 *typed pages*, 17 *claims*; 2 *fols. drgs.*, 8 *figs.*

2477. 7 Feb. C. E. Dewey, 1264 Elizabeth-street, Denver, Col., U.S.A., gentleman.

Porcelain-tipped circulating jets in V-tanks for acid leaching, as 2478/05.

Classes 10.8; 14.7; 74.9.

A V-shaped tank **A** has a lead pipe **B** running along its bottom, with nozzles **B1** at intervals, which project fine jets of fluid upward, and thus keep the arc in constant movement, thereby insuring a thorough contact with the leaching solution.



The nozzles **B1** are burnt on the pipe, and are fitted with porcelain nipples **B2** to prevent the jet altering its size by corrosion.

5 *typed pages*, 7 *claims*; 2 *fols. drgs.*, 3 *figs.*

2478. 7 Feb. C. E. Dewey, 1264 Elizabeth-street, Denver, Col., U.S.A., gentleman.

Sulphating and leaching zinc ores by sulphur-dioxide and air in apparatus 2477/05.

Classes 14.1; 15.2.

The ore is first roasted, whereby the zinc is converted into zinc sulphate and zinc oxide, and the iron into ferric oxide.

The ore is then transferred into V-shaped tanks (illustrated in 2477/05) containing water. The ore is kept in suspension in the liquid by jets of a mixture of air and sulphur-dioxide at the bottom of the tank. Zinc sulphate is formed, and filtered from the ore. The residue is washed with water, and the washings are drawn off into a leaching tank. The next charge of ore is delivered into this weak sulphate solution for the succeeding charge, and so on.

6 *typed pages*, 4 *claims*; 2 *fols. drgs.*, 3 *figs.*

2479. 7 Feb. R. W. Gallagher, 750 Ellis-street, San Francisco, Cal., U.S.A., electrician.

Ticket perforating for any counting meter.

Classes 04.6; 21.6; 50.7; 54.5; 56.4.

The apparatus is applicable to any meter, and enables a printed or perforated record to be taken of the amount registered at any time. The record may be taken in duplicate for the consumer and the inspector. The apparatus may be controlled mechanically or electrically from the registering-train, with or without the usual direct-reading dials.

2479/05

Fig. 1.

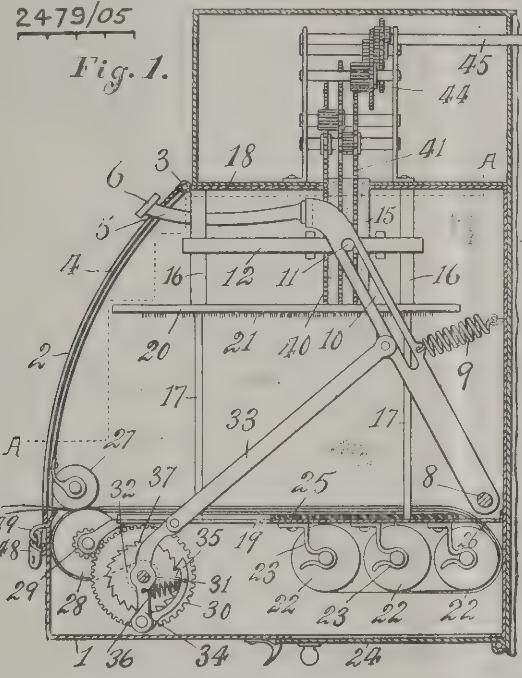
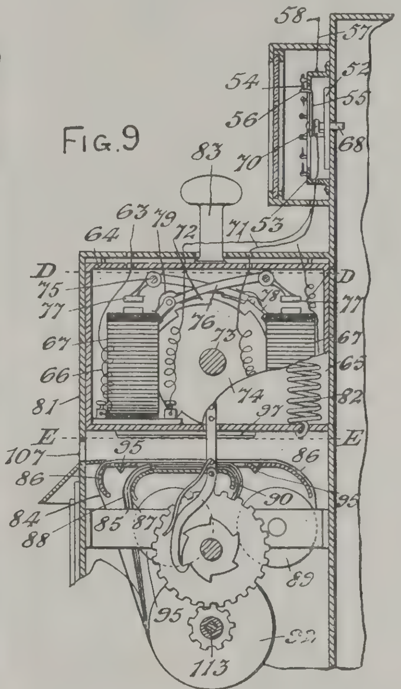


Fig. 9



In Fig. 1, the record ribbon is perforated in three strips, wound off spools **22**, over a rubber or other platen **25**, two of the strips passing out through a slot in the door of the casing, the third being wound on a roller **32**. The perforating frame has a plate **20** (carrying fixed perforators **21** for the number of the meter, &c.), and numbering-wheels **15** geared with the registering-train **44**. The frame is depressed on pulling the handle **6** of the lever **5**. The return of the lever by springs **9**, feeds the strips by ratchet and pawl **35**. The door **2**, hinged at **3**, can only be opened for re-setting the mechanism while the lever is depressed; and a door **24** is provided for access to the spools **22**.

In the modification in Fig. 9, contacts **54** on the dials of the ordinary register are connected to one pole of a battery, while the four pointers are connected through four electro-magnets **67** to the other pole. The armature **77** of each electro-magnet drives one of four ratchet numbering-wheels on the shaft **73**. The frame carrying these wheels slides in the casing, and can be depressed on to the strips and carbon sheets **84, 85, 87, 88** by means of a push button **83**. An oblong flange **97** with cutting-edges is arranged to enter a corresponding trough **95**, and cut out a piece from the upper strip only, the detached portion passing over a sharp edge through a slot **107**. The lower strip, carbon strips, and the remaining portion of the upper strip are all wound on to a roller **92** driven by a spring pawl attached to the sliding frame.

16 *typed pages*, 16 *claims*; 4 *fols. drgs.*, 13 *figs*

2480. 7 Feb. *Prov. only.*

W. Little, 25 Clarendon-street, Ballarat, Vic., auctioneer.

> "Improvements in protective and heat-economising devices usable in connection with cooking and other vessels for open-air and other firing."

Class 24.2.

2481. 7 Feb. G. G. Turri, Salisbury Building, 150 Queen-street, Melbourne, Vic., patent attorney (*agent of* E. L. Sill, *act. inv.*, Woodward, Oklahama Territory, U.S.A.).

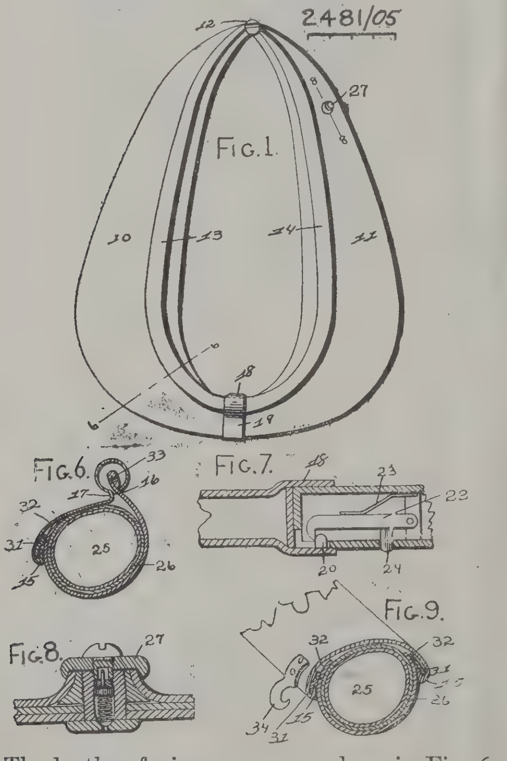
Assignment to E. L. Sill registered pg. 17 vol. 4.

Pneumatic horse-collar; throat fastening and hinge at wither.

Classes 39.6; 97.8.

The air-bags **25** are placed between leather facings **29**, **30**, and moulded plates **10**, **11**, Fig. 1. These plates are hinged at **12**, and locked, as in Fig. 7, by a spring latch **22**, enclosed in the lower curl of plate **11** which enters inside the corresponding larger curl **18** of plate **10**.

2481/05



The leather facings are secured, as in Fig. 6, inside the beads of the plate by folding and sewing the doubled edge, which cannot pass out of the bead. The valve **27** for the air-bag is secured to the plate **10**, as in Fig. 8.

In the modification in Fig. 9, the trace-hooks **34** are attached directly to the moulded plates, the beads **13** and **14** are omitted, and no hames are required.

4 *typed pages*, 2 *claims*; 2 *fols. drgs.*, 9 *figs.*

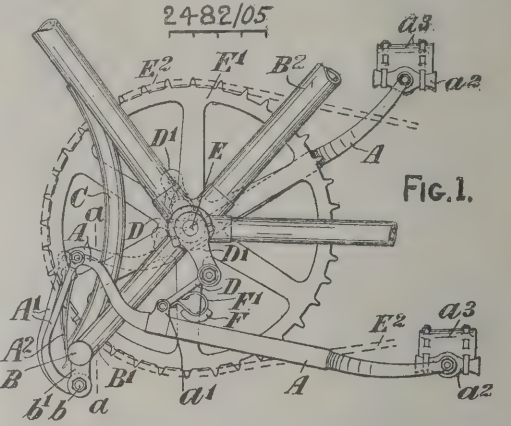
2482. 7 Feb. J. H. McFarlane, East Devonport, Tas., architect.

Side-lever pedals, "Facile" type.

Class 94.5.

The fulcrum of the pedal-levers **A** is on the upper part of a link **A1**, the lower end of which is hinged to a transverse frame bar **B** stayed by the curved bar **C**. The link **A1** is pressed forward by the spring **A2**, and similarly the crank-link **D** has a spring **F1** and rubber buffer **F** to assist in carrying the cranks over their dead centres.

2482/05



4 *typed pages*, 5 *claims*; 1 *fol. drg.*, 4 *figs.*

2483. 7 Feb. J. Kudlicz, *act. inv.*, Prague VII., Bohemia, Austria, manufacturer, A. C. F. von André, *assignee*, 81 Piccadilly, London, Eng., gentleman, and H. R. O. Friederici, *assignee*, 58 Lombard-street, London, Eng., gentleman.

Rotary-feed stoker for locomotives, &c.

Class 16.8.

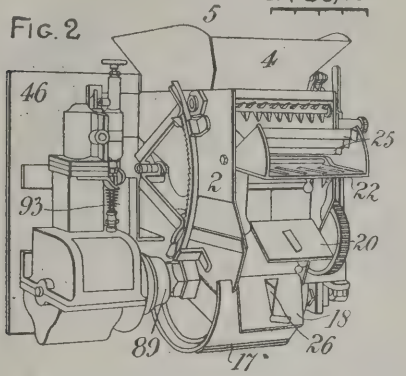
In mechanical stokers for locomotives and other boilers, the whole apparatus may be suspended and swung on the hinges usually employed to carry the furnace door, or it may be mounted on a separate swing-back plate attached by double hinges to swing clear of the furnace opening when the boiler is required to be fired by hand.

From the hopper **4**, Fig. 2, the coal passes between toothed rollers **8**, **9**, Fig. 8, which crush the coal and drop it on to the surface of a rotary ejector **12** with concave arms or blades

14, 16; it is thereby thrown into the furnace opening **7**, where it strikes against, and is scattered by, the adjustable deflecting plates **27, 37**, which extend back over the fire. These deflecting plates swing on the spindle **30**, and are adjusted by the levers with catches on the toothed quadrant near the reference **2** in Fig. 2.

2483/05

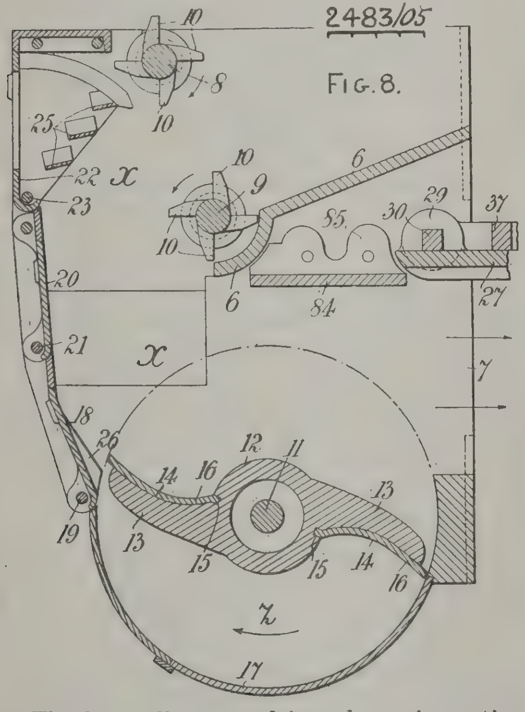
FIG. 2



The apparatus is locked in position against the opening by hand levers, and the ejector is driven by the steam motor at the left of Fig. 2, through the clutch **89**.

2483/05

FIG. 8.



The fuel rollers are driven by reciprocating friction pawls (on the right hand in Fig. 2) operated by a link and eccentric geared from the ejector spindle; these pawls are driven through angular shifting links to vary the stroke.

Doors or openings are provided (Fig. 2) in front, **18** for observation, **20** for pricking the fire, and **22** for admitting air which passes between louvres **25** on the inside, so placed that the falling coal will not enter the spaces.

Shield plates **84**, Fig. 8, prevent the coal from being thrown from the ejector above the deflecting plates **27, 37**. Should any coal fail to pass under these shield plates, the forward face will throw the coal back into the clearance space **X** to be again beaten by the ejector and thrown into the furnace. The action of the rotary ejector is to overthrow the coal.

The stoker, when used on stationary or marine boilers, may be worked by belt gear from any source of power supply; and instead of a duplex deflecting device there is a single counter-balanced deflecting plate having a rising and falling motion from a cam on the axle **9**.

29 *typed pages*, 9 *claims*; 12 *fols. drgs.*, 24 *figs.*

2484. 8 Feb. *C.a.P.* 3 Nov.

J. Wilson, Herbert-street, Spring Hill, Brisbane, Qld., gentleman.

Mop; centrally attached discs of fabric.

Class 25.5.

The head **A** of the mop is formed of a number of graduated discs of flannelette, &c., all placed concentrically together, and joined at the centre by stitching or by a metal eyelet. A hole is worked in centre for reception of the handle **B**, which is provided with a cap or washer **C**, over which the head is bunched and held in shape by the funnel **E** which slides up the handle, and is retained by the spring catch **D**.

2484/05

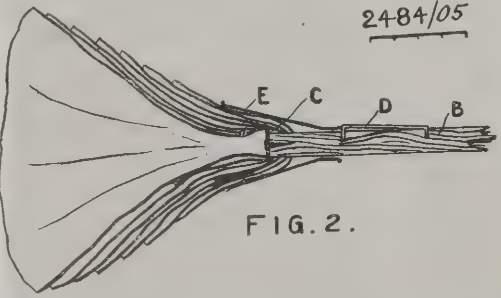


FIG. 2.

Prov. 2 *typed pages.*
Comp. 4 *typed pages*, 3 *claims*; 1 *fol. drg.*, 4 *figs.*

2485. 8 Feb. *C.a.P.* 14 July.

T. G. Bosley, Bellvue, W.A., brick works manager.

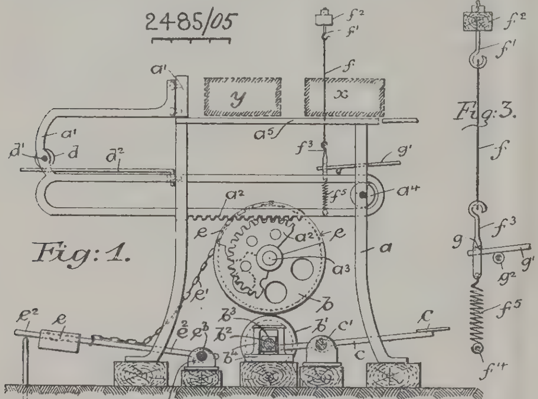
Wire-cut brick making machine.

Class 19.1.

1. The length is cut into individual bricks by being pushed past the wires **f** (as at **x**) by the frame **a1**, driven by the rack wheels **a2** when the depression of the pedal **c** engages the friction gears **b1** and **b**; the motion of the frame winds up the chain **e1** and weighted lever **e2**, which returns the table when the friction gear is disengaged.

2. The frame is guided by rollers **d1** running on brackets **d2** at one side, and by rollers **a4** at the other.

2485/05



3. Each wire **f** is stretched by the spring **f3**, and may be unhooked by lifting the hook **f3** with the lever **g1**, for adjustment or renewal.

4. The clay is extruded from the pug-mill on to the table **a5** in the position **y**, and a length is cut off by swinging a vertical wire mounted in a spring yoke hinged at the ground level.

Prov. 3 *typed pages.*
Comp. 7 *typed pages,* 6 *claims;* 1 *fol. drg.,* 4 *figs.*

2486. 8 Feb. *C.a.P.* 27 Oct.

H. Goldsworthy, Boulder, W.A., hardware merchant.

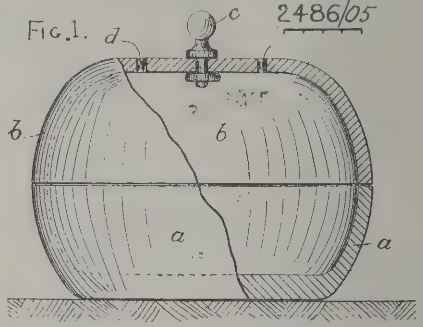
Provision cooler; dish and dome of porous salted plaster.

Classes 18.3; 29.3.

Plaster-of-paris is mixed with salt and methylated spirits and moulded in two bowl-like parts **a** and **b**, which fit together at the large edge. The cover part **b** has a knob **c** and two openings **d** for ventilation.

In use, the cooler is saturated with water and the butter is placed on a plate inside; the evaporation from the cooler lowers the surrounding temperature.

Fig.1. 2486/05



Prov. 2 *typed pages.*

Comp. 3 *typed pages;* 2 *claims;* 1 *fol. drg.,* 1 *fig.*

2487. 8 Feb. E. Phillips, 533 Collins-street, Melbourne, Vic., patent attorney (*communicatee of* H. P. Davis, *act. inv.*, 327 Neville-street, Pittsburg, Penn., U.S.A., and F. Conrad, *act. inv.*, 206 Elm-street, Edgewood Park, Penn., U.S.A., electrical engineers).

Protective cut-outs for parallel alternating circuits.

Classes 03.8; 04.3; 04.6.

In alternating-current distribution having transmission lines in parallel, means are provided for breaking the circuit in any of the lines should there be a reversal of energy flow, or when the current in any conductor exceeds, by a predetermined amount, the current in a corresponding conductor of another line.

A relay in inductive relation through transformers with the lines serves to close the tripping-circuits of circuit-breakers. Fig. 1 shows the application to a three-phase system in which a load **2** is supplied from the generator **1** through conductors **4, 5, 6** and **7, 8, 9**.

Transformers **13, 14** are in series with the conductors **4, 7**. They supply current to coils **15, 16**, which are in inductive relation with a coil **17**, but normally do not affect it.

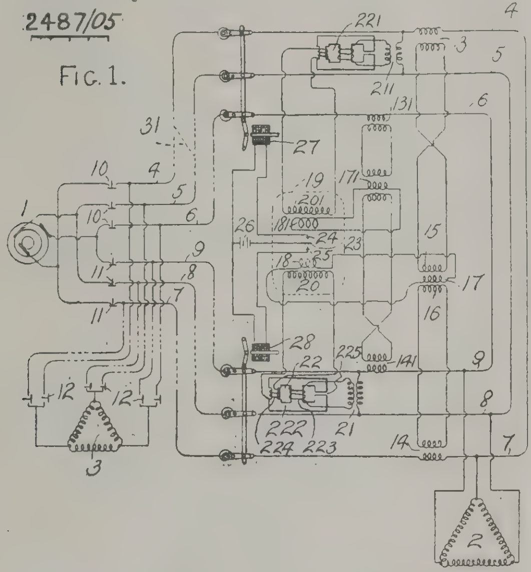
Transformers **131, 141** are also in series with the conductors **6, 9**. At **19** is the instrument for closing the circuit of the tripping-magnets **27, 28** of the circuit-breakers. It comprises two watt-meters, having their moving parts mechanically connected.

The voltage winding **20** of one receives its energy from a transformer **22** of special construction, there being two magnetic circuits so arranged that the voltage supplied is practically constant. The core **222** has one magnetic circuit of small reluctance and the other of large reluctance, being provided with an air-gap **225**.

The series coil **18** of the watt-meter is connected to the coil **17**. The coils **181** and **201** of the second watt-meter are similarly connected to the transformers **171** and **221**. Should a short-circuit occur, say, at **31**, the balance is disturbed, and contact is made at **23, 24**, energizing the trip-coil **27** of the circuit-breaker in the faulty line.

2487/05

FIG. 1.



The core for the coils **15, 16, 17** (when designed to operate on reversal of energy flow only) has an air-gap in the middle limb through which the magnetic flux is forced, energizing the coil **17** on current reversal in either of the coils **15, 16**.

When it is desired that the circuit-breakers should operate with an excessive flow in one conductor, the three windings **15, 16, 17** are placed on the same limb.

A similar arrangement may be employed on a two-phase system, coils **15, 16** acting in opposition. Circuit-breakers of ordinary construction may be provided at **10, 11** to operate under ordinary conditions of overload, &c.

7 printed pages, 3 c'aims; 2 fols drgs., 4 figs.

2488. 8 Feb. E. PHILLIPS, 533 Collins-street, Melbourne, Vic., patent attorney (*communicatee of* B. G. LAMME, *act. inv.*, 230 Stratford-avenue, Pittsburg, Penn., U.S.A., electrical engineer).

Varying motor fields for direct or alternate currents.

Classes 02.4; 03.8; 04.7.

To facilitate the efficient operation of A.C. commutator motors on both A.C. and D.C. circuits, an inductance **26**, Fig. 1, is connected in series with a non-inductive resistance **33**, and both are connected in parallel with the motor field coil **34**. The resistance of **33** is made greater than the resistance of the field coil **34**.

Fig. 1. 2488/05

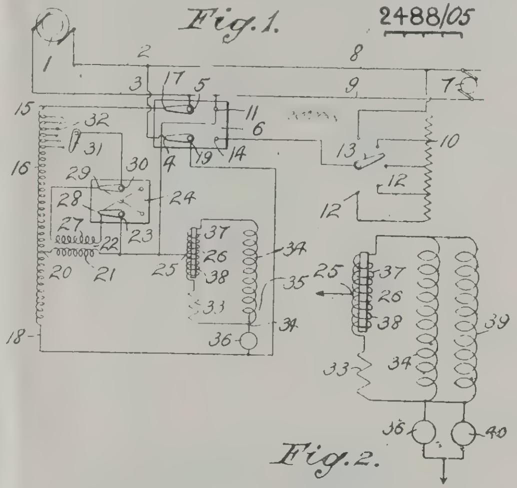


Fig. 2.

Fig. 2 shows a modification of the above.

6 printed pages, 3 claims; 1 fol. drg., 2 figs.

2489. 8 Feb. *Prov. only.*

W. RAJANIEMI, 15 William-street, Melbourne, Vic., labourer.

"Three-legged swing-stilts for quick walking."

Class 53.1.

2490. 8 Feb. *Prov. only.*

W. J. NANKERVIS, Lafrowda, Rochester, Vic., farmer.

"Improvements in header and stripper machines to be worked by petrol or other motor power."

Classes 32.3; 95.5.

2491. 8 Feb. Starrett Cotton Gin Company, 51 Wall-street, New York, U.S.A. (*assignees of* K. A. Gillette, *act. inv.*, 32 West 104th-street, New York, U.S.A.).

Cotton gin; pneumatic roller stripper.
Class 40.3.

To prevent the matting together of the partially-stripped seeds, &c., from short stapled cotton, they are continuously agitated and presented to the action of the stripping knife and roller by means of a comb **22**, Fig. 3, which may be secured to, or form part of, the stripping knife **8**, the operating edge of which is shown at **20**.

2491/05

Fig. 2.

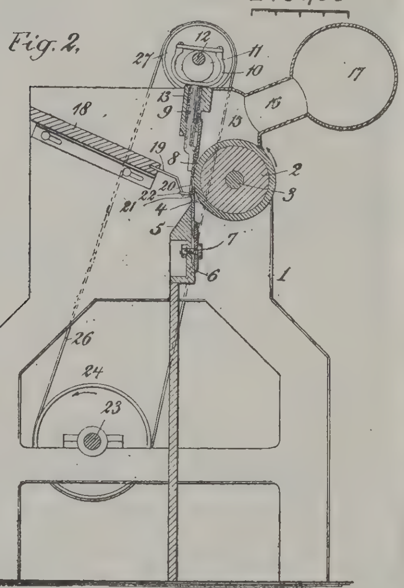
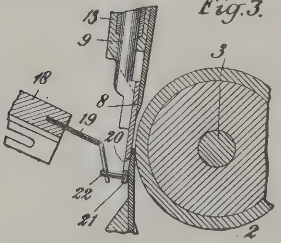


Fig. 3.



The feed board **18** has projecting fingers **19**, Fig. 3, forming a seed grid, which are bent approximately at right angles to the comb **22**. The stripping knife may be in sections, carried by plungers **9**, and driven by eccentrics **11**, at different phases on the shaft **12**, the whole being so mounted in the frame of the machine as to be adjustable and removable.

Above the ginning rollers **2**, Fig. 2, and behind the stripping knife **8**, is a suction chamber **15**, which communicates by pipes **16** and **17** with exhausting apparatus, drawing air between the knife and roller in a direction opposite to that of the rotation of the roller, so that the fibres pass again from the exhaust chamber instead of through it, as formerly.

8 *typed pages*, 6 *claims*; 2 *fols. drgs.*, 5 *figs.*

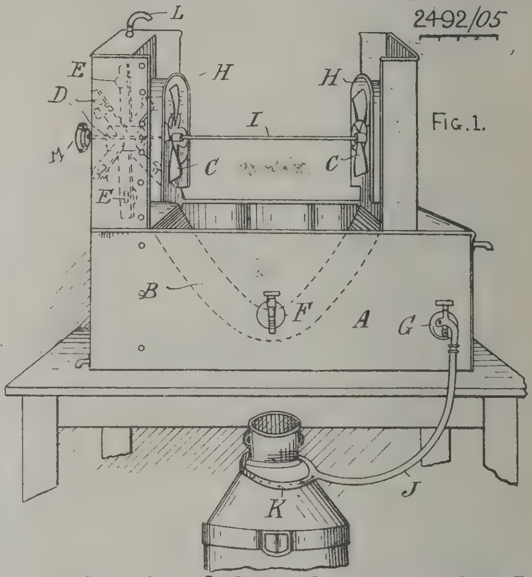
2492. 8 Feb. *C.a.P.* 2 Oct.
H. Stevens, 18 Antill-street, Hobart, Tas., dairyman.

Film milk cooler with water motor and ventilating fan.
Classes 29.7; 36.3.

The milk trickles in a thin film on the surfaces **H**, and passes over a concave surface **B** into a trough fitted with a tap **F**. The undersides of the surfaces **H** are cooled by a current of air from fans **C** driven by a water wheel **E**. The surface of the film of milk on **B** is also cooled by the air from the fans **C**. The waste water from the motor may be used to cool the milk cans, by a hose **J** and perforated ring **K**.

2492/05

Fig. 1.

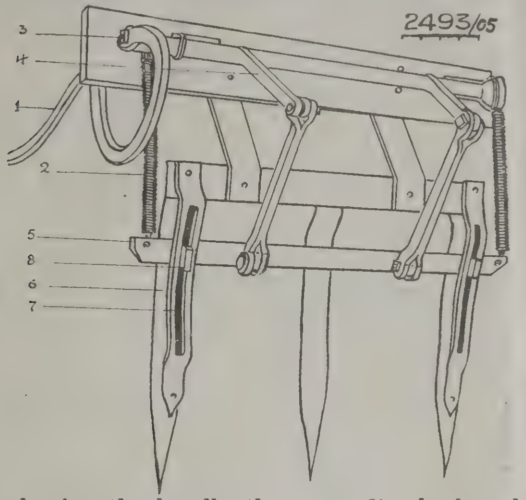


Prov. 3 *MS. pages.*
Comp. 8 *MS. pages*, 4 *claims*; 1 *fol. drg.*, 2 *figs.*

2493. 8 Feb. H. M. Jaensch, Freeling, S.A., blacksmith, and H. C. P. H. Marshall, Templars, S.A., farmer.

Choke cutter for stripper combs.
Class 32.3.

The cutter blade **5** extends across the stripper comb teeth **6**, and slides in guides **7**; the blade is held back by springs **2**, and may be pushed forward by the lever-handle **1** operating through the rock-shaft **3**, arms and links **4**; on releasing the handle, the cutter flies back and clears the comb.



4 *typed pages*, 2 *claims*; 2 *fols. drgs.*, 1 *fig.*

2494. 8 Feb. A. V. Cunnington, 13 Moss-road, Winnington, Chester, Eng., manufacturing chemist.

Leaching roasted zinc ores with zinc chloride; separating arsenic by ferric hydroxide.

Class 14.1.

The crude ore (or preferably the calcined ore) is powdered and added slowly, with constant stirring, to a concentrated solution of a zinc salt, basic salts of zinc being formed; normal salts are obtained by adding the corresponding acid, below the surface of the liquid, in sufficient quantity to dissolve the precipitated bassic salts formed; excess of acid must be avoided to prevent solution of the iron, and to prevent the silicates from being split up. If much iron be present, it is partially reduced to the metallic state before treatment.

Arsenic is separated from the zinc by stirring freshly precipitated ferric hydroxide in the neutral or alkaline solution.

8 *typed pages*, 2 *claims*. *No drawings.*

2495. 8 Feb. A. S. F. Robinson, White House, Barsham, Beccles, Suffolk, Eng., engineer.

Elastic wheel; internal springs and links, solid tires.

Class 97.6.

An annular plate **b**, Fig. 1, secured to the hub, fits between two annular plates **a**, **a** extending inwardly from the rim of the wheel. Thrust transmitting devices are carried in radial tubular guides **15** secured to the hub; the outer ends of the plungers **14** are connected through springs **s** to intermediate triangular levers **9**, pivoted to the hub plates **x** and to thrust transmitting carriages **u**, which work on roller paths **1** attached to the hub or rim, and provided with curved ends to transmit the tractive effort.

Numerous modifications of the invention are described.

In Figs. 2 and 3 the section shows the attachment of the tire **f** by the rim bolts **h**; also the cover plates **p**, **k** which prevent the access of mud to the inner springs and pins.

In Fig. 4, the roller tracks **1** are transferred to the hub, and are formed in two parts hinged at **6** with steadying springs **7**; the levers **t** being fulcrumed on the rim at **w**, and connected to the carriages **u** by spring-links **31** and balance levers **30**.

In Fig. 7, the motion of the spring connexions is limited by the slots **25**.

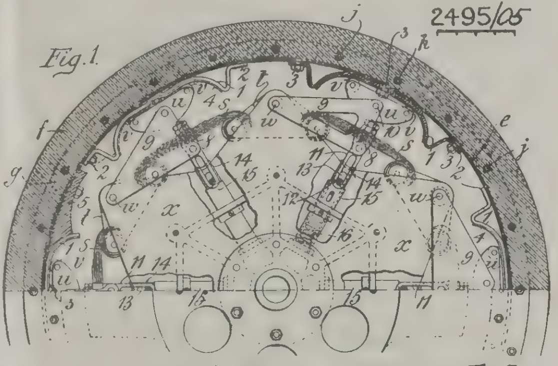


Fig.1.

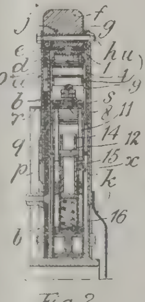


Fig.2.

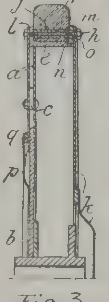


Fig.3.

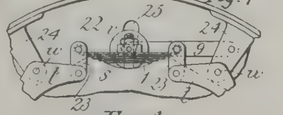
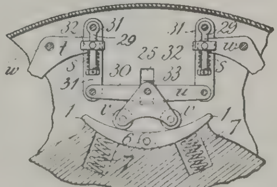


Fig.7.

Fig.4.



23 *typed pages*, 21 *claims*; 9 *fols. drgs.*, 20 *figs.*

2496. 9 Feb. F. D. Mercer, 158 Louisa-street, Toronto Junction, Ontario, Canada, gentleman.

Spring lace-coupling for woven belts or aprons.

Class 62.7.

A driving belt **a**, Fig. 3, has eyes **o** and **j** attached at one end, to which connecting cords or laces are fixed, the other end having guiding eyes **d** through which the laces pass to a tension spring **h**, which allows the belt to contract when damp. The eyes may be substituted by cross battens **b1**, Fig. 4, to which the laces are fixed by clamps **q**.

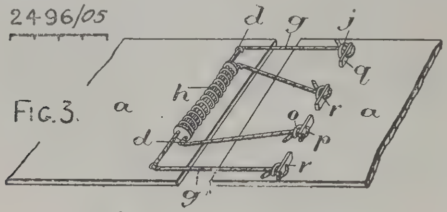


Fig. 3.

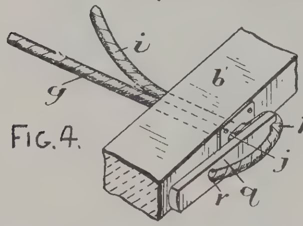


Fig. 4.

10 *typed pages*, 20 *claims*; 2 *fols. drgs.*, 4 *figs.*

2497. 9 Feb. *C.a.P.* 26 Aug.

G. Lindsey, "Culloden," Livingstone-road, Marrickville, N.S.W., brewer.

Bung, air vent, and float valve for filling barrels, &c.

Classes 27.8; 57.2; 74.8.

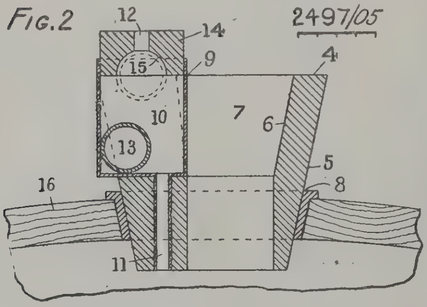


Fig. 2

For preventing waste when filling casks, a tapered bung **4** of indiarubber or other material has a hole **7** for a filling pipe, and a valve chamber **10** having an air outlet **12**, which is closed by a float valve **13** when the liquid rises in the valve chamber.

Prov. 3 *MS. pages.*

Comp. 4 *typed pages*, 2 *claims*; 1 *fol. drg.*, 3 *figs.*

2498. 9 Feb. *Prov. only.*

E. R. Grant, Bowenville, Darling Downs, Qld., lady.

"An improved combination attachment for window curtains to pole rings."

Classes 46.6; 78.8.

2499. 9 Feb. A. J. Miller, "Tarl-ee," Orrong-road, Toorak, Vic., gentleman.

Meat extract and milk albumen.

Classes 35.4; 36.4.

The meat is treated by steam and the soluable portion recovered by removing the aqueous extract and evaporation. The residue of meat fibre is separated from the bones, dried in a current of warm air, powdered, and further heated in a closed vessel for one hour or longer. The bones are treated with a 10 per cent. solution of hydrochloric acid to extract the gelatinous matter (ossein), which is washed with water to remove the mineral salts, the last portions of hydrochloric acid being removed by carbonate of soda. The excess of carbonate of soda is removed by washing with water, and the remainder neutralized by citric acid. The ossein is dissolved in hot water, and is added to the mixture of meat extract and meat powder.

Milk powder or milk albumen is added to the mixture to increase the nitrogeneous and carbo-hydrate contents of the meat extract.

Prov. 4 *typed pages.*

Comp. 5 *typed pages*, 4 *claims.* *No drawing.*

2500. 10 Feb. *C.a.P.* 3 Nov.

F. McLeod, 57 Cuba-street, Wellington, N.Z., draper.

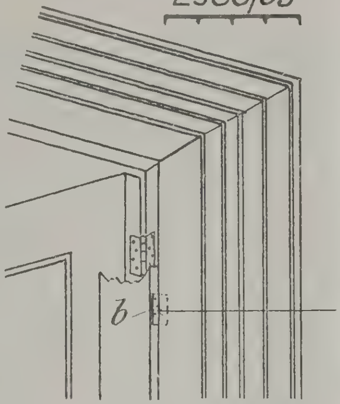
Safety cover strip and draft-preventer for door hinges.

Classes 81.5; 88.9.

To prevent clothing or children's fingers being caught or crushed by door hinges, and to prevent drafts, a batten of wood the same height as the door and wide enough to cover the hinge space is hinged at **b** to the door frame close to the door face when the door is closed.

Spring hinges keep the batten close against the door as it opens, or separate springs may be used to hold the batten as the door moves.

2500/05



Prov. 2 *typed pages.*
Comp. 3 *typed pages,* 1 *claim;* 1 *fol. drg.,* 2 *figs.*

2501. 10 Feb. *Prov. only.*

G. Taylor, 25 Penkivel-street, Bondi, N.S.W., artist.

"Apex wall block."

Class 81.1.

2502. 10 Feb. *C.a.P.* 6 Nov.

R. Wales, 5 Commercial Chambers, 24 Manse-street, N.Z., engineer.

Mitre cutting; circular saw and duplex guides.

Classes 80.5; 80.7.

A circular saw bench for cutting simultaneously two pieces of moulding or the like to form a bevel or mitre joint. Two rests or guides **40** and **28**, one on each side of the circular saw **16**, are set at an angle of 45 degrees with the saw, and are attached to the slide plates **20** and **12**, which have grooves planed underneath to engage with the slide-ways shown in dotted lines; for the rest **40**, the slide-ways are attached to the frame of the machine so that the rest slides radially to the axis of the saw spindle, while the swinging radial slide-ways for the rest **28** are carried by a bracket and sleeve **5**, Fig. 8, which is axially attached to the machine frame near the bearing **26**, and is secured in position by the wing nut **9** and quadrant slot **8**; the rests are attached by the chains **45** and **52**, which are led around pulleys to the treadle lever **49**, so that they are moved simultaneously towards the axis of the saw spindle.

FIG. 8 2502/05

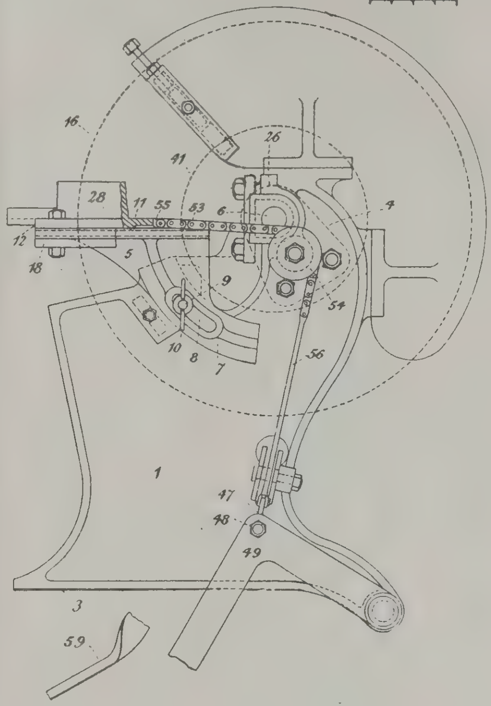
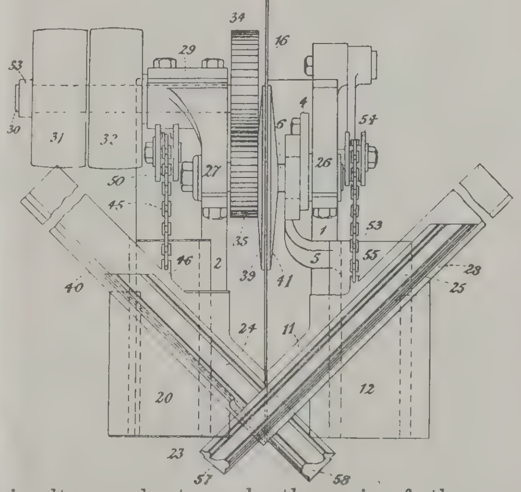


FIG. 5 2502/05



Prov. 4 *printed pages, no claim;* 5 *fols. drgs.,* 9 *figs.*
Comp. 4 *printed pages,* 6 *claims;* 5 *fols. drgs.,* 9 *figs.*

2503. 10 Feb. *C.a.P.* 21 July.

F. de J. Clere, 86 Lambton Quay, Wellington, N.Z., architect.

Reversible sashes; spring pivots and vertical slides.

Classes 78.7; 81.5.

In development from Qld. 3618/*96*, the sashes may have either sliding or rotary motion. Instead of the sliders being spring-pressed against the pulley styles (which caused excessive friction) they are held against the V-grooves on the sashes by spiral springs **22** placed around the pivot-bolt **15**, as shown in Fig. 5. Thus, when the sash is swung (as Fig. 3), the inclined faces of the sash force the slider blocks back into the frame; but in the vertical position there is no excessive friction to oppose the vertical motion of the sashes.

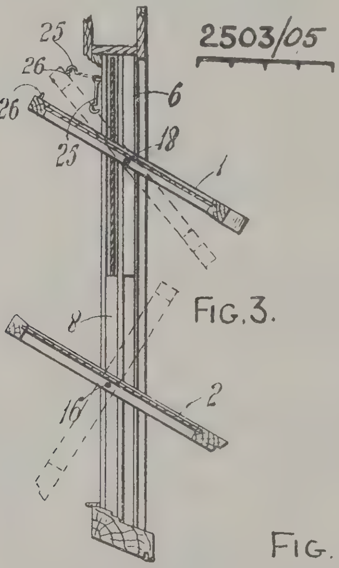
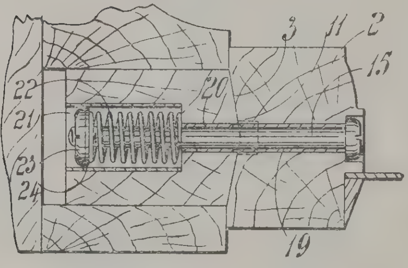


FIG. 3.

FIG. 5



Prov. 2 typed pages.

Comp. 5 typed pages, 4 claims; 1 fol. drg., 6 figs.

2504. 10 Feb. *Prov. only.*

W. Radford, G. Walliss, J. A. McHarg, C. Provis, and W. Fischer, Rainbow, Vic., farmers.

"An improved hand winnowing machine."

Class 32.6.

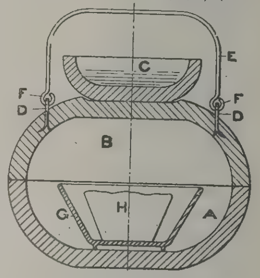
2505. 10 Feb. R. Coates, 1 Hamilton street, Boulder City, W.A., rubber stamp maker.

Plaster-of-paris butter cooler and filter.

Classes 28.1; 29.3.

Two bowl-shaped plaster-of-paris vessels **A** and **B** are used, the upper or cover **B** having a handle **E**. On top of the cover **B** a third bowl **C** (also of plaster-of-paris) containing water is placed, which slowly saturates the three vessels. Articles to be cooled are placed inside as at **H**.

FIG. 1. 2505/05



The cooler may be used for filtering by filling the bottom vessel **A** and placing it over a can or other water receptacle.

4 typed pages, 3 claims; 1 fol. drg., 3 figs.

2506. 10 Feb. B. and W. Trewhella, Trentham, Vic., engineers (*assignees of* W. Trewhella, *act. inv.*).

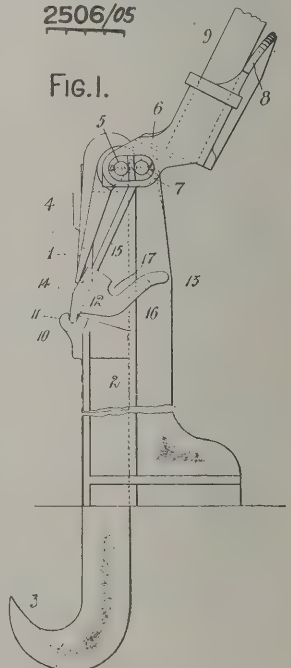
Rack and lever jack; pawl details.

Class 59,1.

The rack-bar **1** having a foot-claw **3**, and teeth on the face towards the claw, slides in a casing **2**, on which the forked lever head **6** is fulcrumed at **7**; a forked dragging pawl **4** is linked also at **5**; the detent **12** is a forked piece resting in the socket-groove **10**, and kept against the rack by the weight of the handles **13**.

2506/05

FIG. 1.



5 typed pages, 3 claims; 2 fols. drgs., 5 figs.

2507. 10 Feb. *Comp. Specn. withdrawn.*

J. C. Stevens, Melbourne-street, East Maitland, N.S.W., coachbuilder.

"An improved screw press for baling hay and the like material."

Class 57.3.

2508. 11 Feb. B. Bodycomb, William-street, Melbourne, Vic., patent attorney (*communicatee of* W. Borlase, *act. inv.*, Manders-road, Dunedin, N.Z., mechanic).

Application under Sec. 7, patented in—

Vic. ... 21,184 ... 8th December, 1903.

Wire strainer; winding barrel and turnover frame.

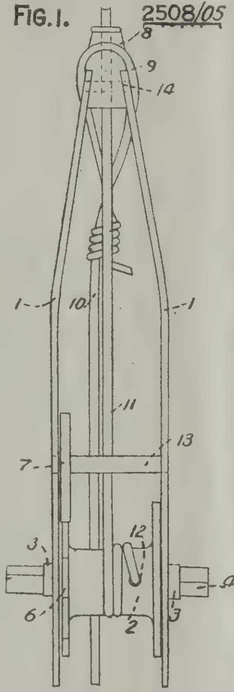
Class 58.3.

A ratchet drum **2** with detent **7** is mounted in a bifurcated metal frame **1** having a double nose piece **8** which holds loops of wire upon the end of one of the wires to be connected, the other being passed back to the barrel and strained as usual.

A lever handle is hinged in two parts to serve also as a cutter and twister.

An alternative nose-piece is also shown.

FIG. 1. 2508/05



6 typed pages, 7 claims; 3 fols. drg., 7 figs.

2509. 11 Feb. J. R. Skinner, 238 Colombo-street, Victoria-square, Christchurch, Canterbury, N.Z., bootmaker.

Application under Sec. 7, patented in—

N.S.W. ... 13,829 ... 23rd January, 1904.

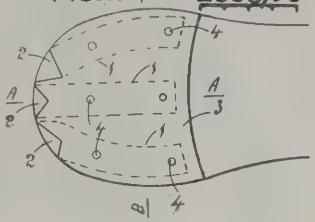
Rubber heels; embedded and nailed strips with lugs.

Class 44.3.

Flat steel strips **1** are imbedded in the rubber, each strip having at its outer end a downwardly projecting lug **2** flush with the lower surface of the heel **3**, to receive the wear.

The heel **3** is secured to the leather by nails or screws through countersunk holes **4** in the metal strips, the heads of which bear against the under-side of the strips **1**.

FIG. 1. 2509/05



3 typed pages, 3 claims; 1 fol. drg., 3 figs.

2510. 11 Feb. *C.a.P.* 4 Dec.

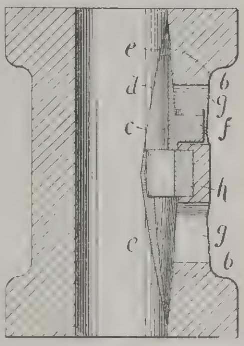
F. Anderson and J. S. Jarvis, East Rand Proprietary Mines Ld., Transvaal, S. Af., engineers.

Compound wedge-keys for stamper tappets, shafts, &c.

Classes 10.2; 62.8.

Tappets for stamper stems or mill shafts are attached so that they will automatically tighten, yet can be easily removed. The tappet is recessed to receive two spiral wedges **d** arranged to slide on the spiral walls **e** of the recesses in reverse directions when tightened by being driven apart by the central cottar **h**. They are slacked back by the lugs **f**, which project through apertures in the tappet body.

FIG. 3. 2510/05



2510/05

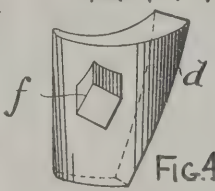


FIG. 4.

Prov. 3 *typed pages.*
Comp. 4 *MS. pages, 2 claims; 1 fol. drg., 4 figs.*

2511. 13 Feb. *C.a.P.* 12 Dec.

W. A. Trevarthen, Goondiwindi, Qld., inspector of stock.

Pump stencil for pigment branding.

Classes 37.4; 51.6; 79.4.

A stencilling tool, especially suitable for marking sheep, but applicable for general branding. A reservoir **5**, to contain the pigment, is fitted with a screw lid **6**, through which works a handle **9**, having attached to the bottom a marking plunger **16** the shape of the required brand, which passes through a chamber **13** fitting the plunger closely at the bottom end, but having tapered sides to allow the pigment to enter when the plunger is partially withdrawn; the bottom of the chamber is closed by the wire gauze stencil face **15**, which is lined by sponge or felt **18**.

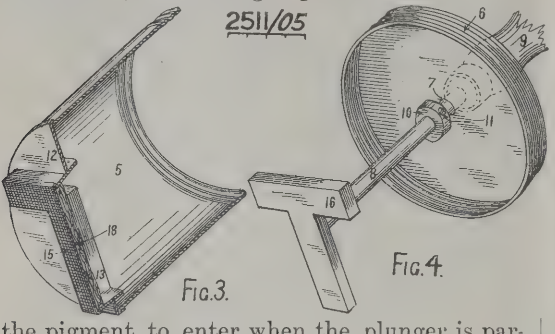


Fig.3. Fig.4.

Prov. 3 *typed pages.*
Comp. 4 *typed pages,* 3 *claims;* 1 *fol. drg.,* 4 *figs.*

2512. 13 Feb. *C.a.P.* 9 June. *Comp. lapsed.*

F. Kate **Warner**, 14 Majore-street, Hawthorn, Vic., married woman.

"Improvement in baby shoes and boots."

Class 44.1.

2513. 13 Feb. *Prov. only.*

C. A. **Unbehaun**, G.P.O., Adelaide, S.A., electrical engineer.

"Improvements in the working of long telegraph lines, and apparatus therefor."

Classes 04.7; 05.2; 07.3.

2514. 13 Feb. *Prov. only.*

R. **White**, Auckland, N.Z., gentleman.

"Anti-jolting appliance applicable to various varieties of vehicles and mobile machinery travelling over rough roads and country."

Classes 93.1; 95.5.

2515. 13 Feb. *Prov. only.*

T. **Pitman** (*sen.*), and T. **Pitman** (*jun.*) Reilly-street, Collingwood, Vic., boot and shoe manufacturers.

"An improved adjustable jack.'

Class 44.5.

2516. 13 Feb. *Prov. only.*

W. V. **Price**, Gerangamete, Vic., mechanic.

"An improved cow-bail."

Class 37.3.

2517. 13 Feb. *Prov. only.*

W. V. **Price**, Gerangamete, Vic., mechanic.

"An improved cow-bail."

Class 37.3.

2518. 13 Feb. F. A. **Lewis**, 339 Flinders-lane, Melbourne, Vic., manufacturer.

Nitre spray for boiler smoke prevention.

Class 17.7.

A reservoir **A** fixed above a boiler contains a 5 per cent. solution of sodium nitrate or potassium chlorate, and has a pipe **E** leading to a steam ejector and spraying nozzle above the furnace door which delivers a spray of mixed steam and solution.

Alternatively, steam may be led by a pipe **O** to the top of the reservoir, delivering a spray of solution only; in this case the ejector is discarded, and a vessel **K** is used to fill the reservoir **A** while under steam pressure.

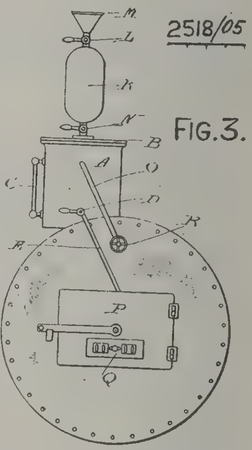


FIG.3.

8 *typed pages,* 6 *claims;* 1 *fol. drg.,* 3 *figs.*

2519. 14 Feb. *Prov. only.*

Kate **Shaw**, Phillip-street, Sydney, N.S.W., typist.

"Improvements in gas-heated sad irons."

Class 25.7.

2520. 14 Feb. *Prov. only.*

A. H. **Krause**, Macelvie-street, Grey Lynn, Auckland, N.Z., agent, and A. **Wood**, 57 Grey-street, Auckland, N.Z., storeman.

"An improvement on bakers' peels."

Class 34.6.

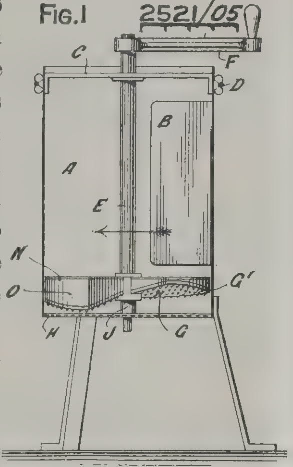
2521. 14 Feb. S. S. Titt, *act. inv.*, 3 King's-road, Brighton, Sussex, Eng., hotel proprietor, and E. F. B. Kenyon, *assignee*, 24 Carlisle-road, Hove, Sussex, Eng., gentleman.

Rotating bread grater.

Classes 10.7; 76.8.

A cylinder **A** of stout tin plate has a fixed radial wing **B** to prevent rotation of the bread. The rotating grater **G** is held off the bottom **H** by a collar **J**, and has a sectorial notch to allow the bread to feed under it; the leading edge of the notch is raised and the lower surface descends spirally to the other edge, and the top is a level plate **N**. The cylinder bottom is perforated and the crumbs fall through.

FIG. 1 2521/05



Prov. 2 *typed pages.*
Comp. 4 *typed pages,* 3 *claims;* 1 *fol. drg.,* 4 *figs.*

2522. 14 Feb. A. Koren (*jun.*), 54 Ullevoldsveien, Christiania, Norway, physician.

Folding telescopic pipes for fire escapes, diving bells, &c.

Classes 65.1; 74.5; 74.9; 82.8; 88.4.

Fluid conduits for diverse purposes, requiring adjustability and portability, are constructed in sections of three telescopic tubes with gland packings; the middle tube slides independently, and as many sets as are necessary are coupled by spherical or universally-hinged joints at the ends of the inner and outer telescopic parts, so that a considerable length may be rapidly folded up or extended.

FIG. 3. 2522/05

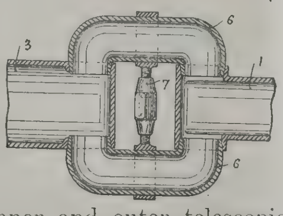


Fig. 3 shows one joint between an inner tube **1** of one set, and an outer tube **3** of another set; a pair of **U**-tubes **6** have swivelling sockets in opposed seats on each pipe, and are clamped by the screw **7**.

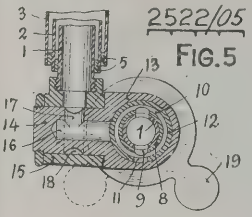


Fig. 5 is a section of a joint having the hinge-axes at right angles, suitable for connecting branches to mains.

Fig. 6 shows sets of triple tubes, forming the frame for the ladders of a fire escape, in the collapsed position, from which position the end pressure (on the admission of pressure from water, compressed air, or liquefied gas) in the telescopic tubes extends the apparatus and lifts the escape to the upper parts of burning buildings.

FIG. 6. 2522/05

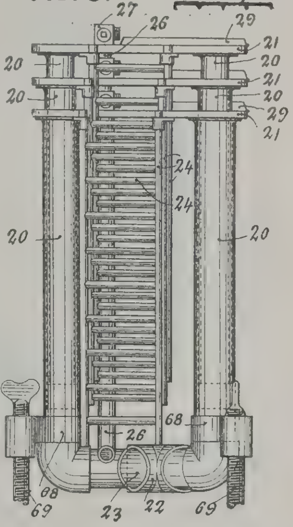


Fig. 9 shows a laterally projecting platform of the escape, having plates **31**, **34** attached to the tubes, so that bridges may be provided from the several stages of the tower in Fig. 6 to the buildings. A swinging telescopic branch **56** carries a water jet **63** with universal mounting.

2522/05

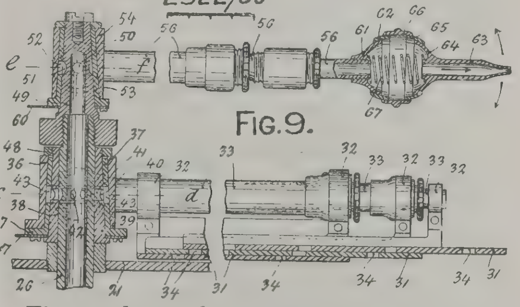


Fig. 12 shows the application of the system to the tubes connecting a spherical diving bell to the surface. Two or more concentric sets of tubes may be used for independent purposes, and various tools may be operated through universally packed glands **94**.

2522/05

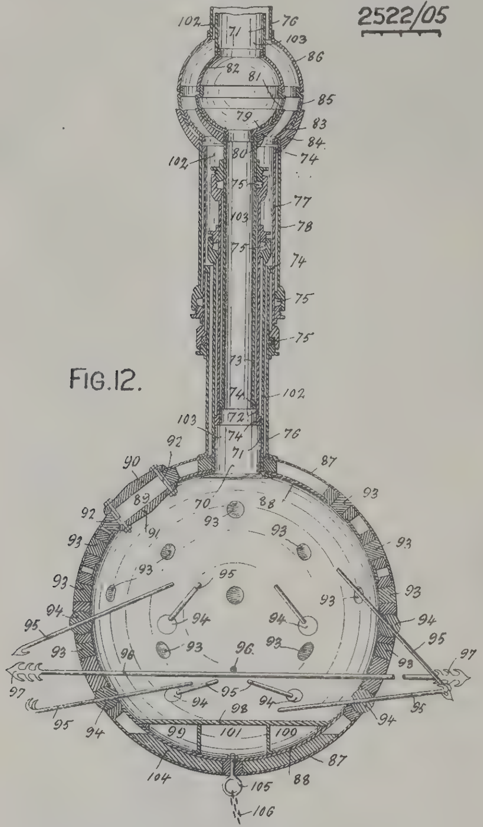


FIG. 12.

24 *typed pages*, 14 *claims*; 4 *fols. drgs.*, 12 *figs.*

2523. 14 Feb. *Comp. lapsed.*

W. McLeish, 20 East-street, Ballarat East, Vic., engine-driver.

"Improvement to cold water pumping engines."

Classes 63.8; 65.6.

2524. 14 Feb. *Prov. only.*

G. G. Blundell, No. 249 Bridge-road, Annandale, N.S.W., milk vendor.

"Improved device adapted to lock milk receptacles and the like to house doors."

Classes 36.2; 77.1.

2525. 14 Feb. J. Thompson, California Gully, Bendigo, Vic., blacksmith.

Application under Sec. 7, patented in—

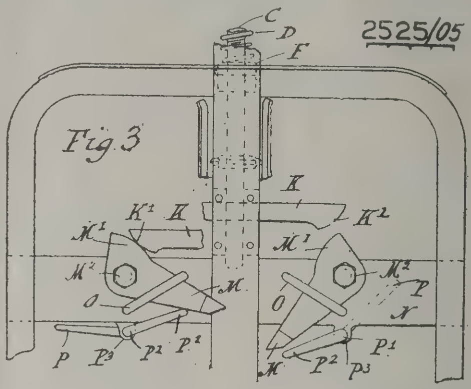
Vic. ... 21,235 ... 4th January, 1904.

Skid grips for mining cages.

Class 59.2.

The right hand dog **M** is shown held by gravity in its normal position out of contact with the skid **F**. The rock-lever **P, P2** may be used to put the dog in engagement by hand.

2525/05



Striking arms **K** attached to a crosshead are held above the dogs by springs on the lifting rope, but on fracture or accident will be forced down by the springs, and close both the dogs into engagement as shown at the left hand of the figure.

8 *typed pages*, 8 *claims*; 1 *fol. drg.*, 3 *figs.*

2526. 14 Feb. W. M. Richards, Walton-street, Sth. Brisbane, Qld., assurance manager, C. J. Cohen, Fitzroy-street, Rockhampton, Qld., assurance manager; and R. Thomas, Denham-street, Rockhampton, Qld., conveyancer (*assignees of* W. Hindley, *act. inv.*, Rockhampton, Qld.).

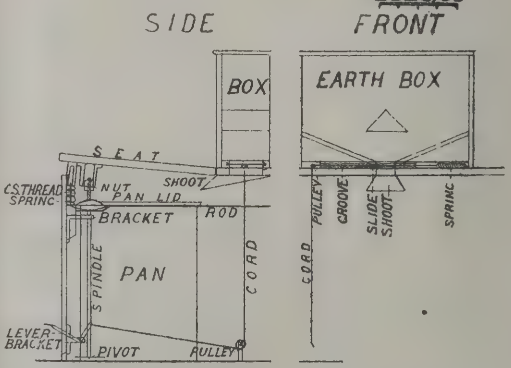
Additional to 779/04.

Earth closet; seat operated pan covers; pedal operated earth supply.

Class 86.3.

The pan cover is a circular plate rotating in its own plane on a vertical spindle outside the pan; the upper end of the spindle above the plate has a long pitch screw working in a nut attached to the hinged seat which is held up in front by two springs; when the seat is pressed

2526/05



down the spindle revolves and uncovers the pan. The pan may be changed without moving the spindle and cover.

The earth hopper is closed by a slide which may be withdrawn (against a return spring) by a wire or cord leading over pulleys to a bent lever pedal which projects in front of the seat.

3 *typed pages*, 2 *claims*; 1 *fol. drg.*, 2 *figs.*

2527. 14 Feb. *C.a.P.* 3 Nov.

W. E., J. T., and A. G. Catesby, 64–67 Tottenham Court-road, London, Eng., manufacturers.

Corner pieces for bordered linoleum, &c.
Class 46.4.

Corner squares **a** are designed and fashioned in accordance with the pattern **b** so that the pattern matches where the square meets the border. If the floor coverings are stitched together a suitable selvedge is provided on the two sides **c**, **d** of the square **a** which meet the end of the border **b**. The corner square **a** is designed expressly so that the adjacent ends of a right-angled cut across the border match with the corner **a** at its respective sides **c** and **d**.

2527/05

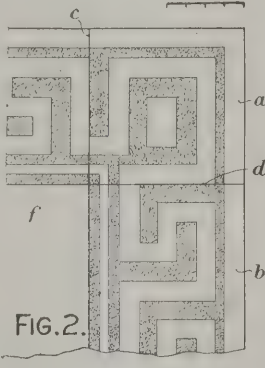


FIG. 2.

Prov. 2 *typed pages.*
Comp. 4 *typed pages*, 3 *claims*; 1 *fol. drg.*, 2 *figs.*

2528. 14 Feb. *Comp. lapsed.*

R. Cumming, 99 Craiglea Drive, Edinburgh, Scot., insurance manager.

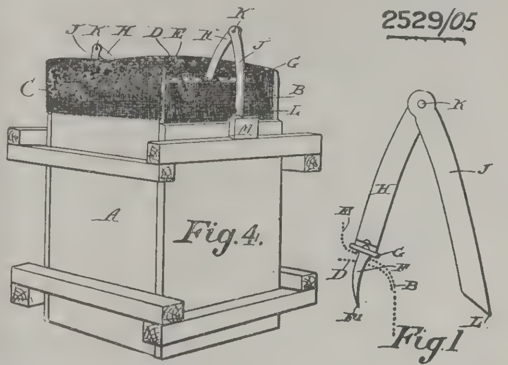
"Improvements in or connected with locks."
Class 77.3.

2529. 14 Feb. R. Rogerson, Shadwell, Myrtle Creek-road, Elphingstone, Vic., farmer.

Straining fork for holding wool bales during sewing.
Classes 42.1; 57.3.

A fork with teeth **F** and a back **G** as long as the bale seam has a strut or link **J** hinged at the end of the short handle **H**. The fork is pushed through canvas in a horizontal direction, and turned up to the position in Fig. 1, the strut **J** being supported, as in Fig. 4, during the sewing.

2529/05



5 *typed pages*, 1 *claim*; 1 *fol. drg.*, 4 *figs.*

2530. 15 Feb. *Prov. only.*

E. J. Thwaites, 212 Russell-street, Melbourne, Vic., manufacturer.

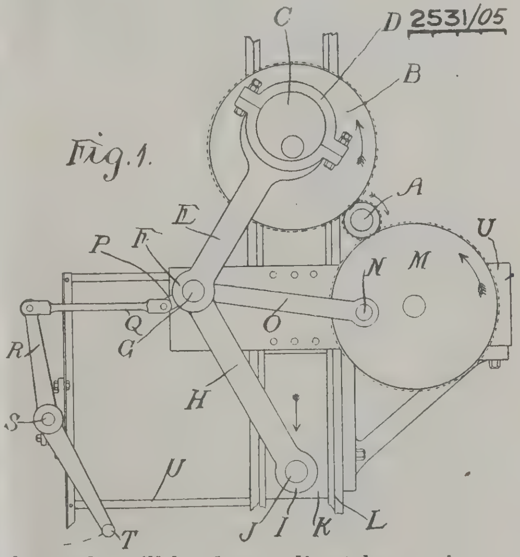
"An improved pneumatic piano playing apparatus."
Class 01.6.

2531. 16 Feb. G. F. Holden, Wallace, Vic., produce merchant.

Fodder press; toggle and eccentric gear.
Classes 57.3; 60.1.

To vary the velocity ratio of a plunger for fodder presses, so that the speed at the end of the stroke will be slow, a direct harmonic compression by an eccentric **C** is combined with a toggle-link motion **E**, **H** operated by another

2531/05



crank **N** geared at 90 degrees phase, which pulls the toggle straight at the end of the compressing stroke.

5 *typed pages*, 3 *claims*; 1 *fol. drg.*, 2 *figs.*

2532. 15 Feb. *Prov. only.*

N. Guthridge, 486 Collins-street, Melbourne, Vic., merchant (*communicatee of* W. L. Card and F. S. Card, *act. invs.*, Denver, Col., U.S.A.).

"Ore concentrating table."

Class 11.4.

2533. 16 Feb. F. H. Smith, Home House, Datchet, Buckinghamshire, Eng., engineer.

Oil pump with suction motor and carbureter for petrol engines.

Classes 66.5; 68.3.

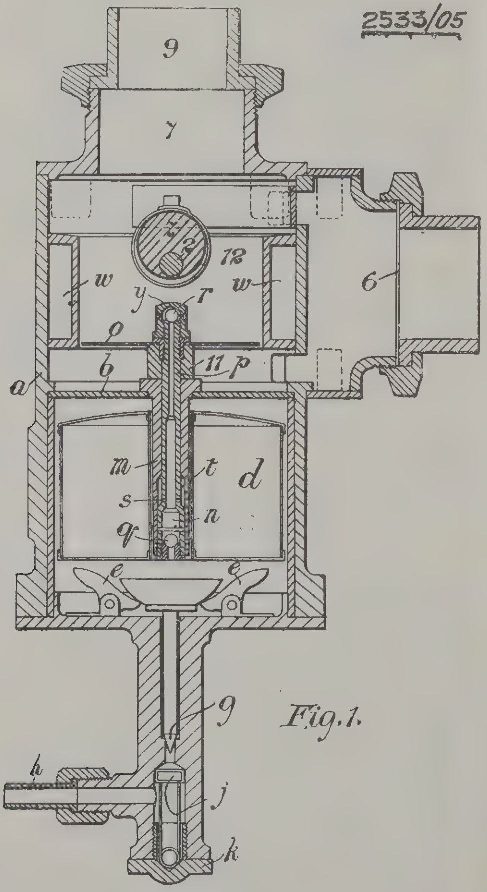


Fig. 1.

The casing **a** is divided into an upper and a lower chamber; the latter is an oil chamber filled through a pipe **h**, the level of the oil being controlled by the needle valve **g** and float **d**. In the centre, and projecting into both chambers, is a cylinder containing an inverted pump; the hollow piston rod **p** projects into the upper chamber, and carries a perforated disc **o** acting as a motor-piston to operate the oil pump, under the action of the currents of air induced by the engine suction through the pipe **9**. A cam **z**, mounted on a spindle **2**, may be adjusted to limit the stroke of the oil pump, which descends by a weight or spring.

The upper or carbureting chamber is heated by the exhaust gases which pass around the jacket passage **w**.

During the suction stroke, air is drawn in through the pipe **6** below the annulus **w** and beneath the perforated disc **o**, but cannot pass the loaded spring closing the upper port above **w**. On the up-stroke of the plunger, the petrol, which has previously entered the annular pump chamber **t** through the ports **s**, is forced through the hollow piston-rod and sprayed into the mixing chamber through the small ports in the valve-chamber **y**, after passing the ball valve **r**. Two or more carbureters may be controlled by the same cams.

8 *typed pages*, 5 *claims*; 5 *fols. drgs.*, 6 *figs.*

2534. 16 Feb. *Prov. only.*

M. Belk, Palmerston North, Wellington, N.Z., engineer.

"An improved method of branding and embossing carcasses of mutton."

Class 37.4.

2535. 16 Feb. *Prov. only.*

H. A. Perkins, Sturt, S.A., mechanic.

"Improvements in apparatus for actuating gates."

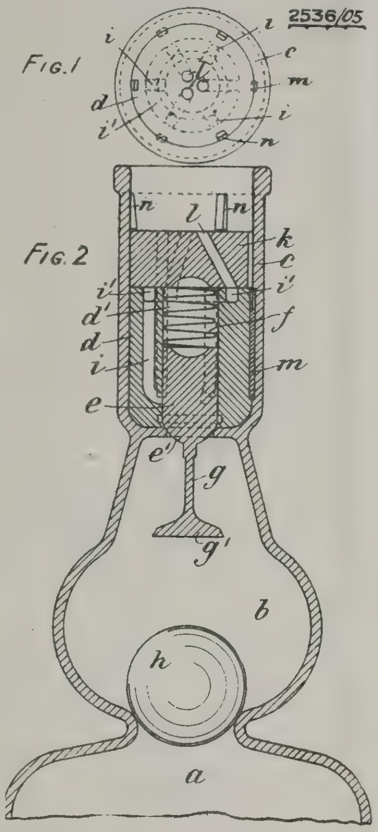
Class 81.9.

2536. 16 Feb. M. H. Chiron, Princes-street, Sydney, N.S.W., artist.

Internal weight operated bottle valve.

Class 57.6.

A cylindrical piece **d** is inserted in the neck of the bottle, and locked by means of keys, which are dropped into grooves in the cylinder and the inside of neck. The cylinder is provided with passages **i** terminating in an annular passage **i'**. Above the cylinder **d** is another cylinder **k**, similarly locked in position, and provided with passages **l** which register with the annular passage **i′** between the passages **i**. Within a bore in the cylinder **d** a piston **e** is fitted, forming at its lower end a valve resting on the seat **e′**. Above the piston is a spiral spring **f** which holds the valve on its seat. The piston is provided with an extension **g** and a disc **g′** on which the glass ball **h** acts and forces the valve from its seat, thus allowing the escape of the liquid by way of passages **i**, **i′**, and **l**.



4 *typed pages*, 2 *claims*; 1 *fol. drg.*, 2 *figs*.

2537. 16 Feb. *Prov. only.*

W. E. S. Mackay, *act. inv.*, 286 Toorak-road, South Yarra, Vic., engineer; G. E. Howard, *assignee*, 54 Argo-street, South Yarra, Vic., grocer; and J. A. Turner, *assignee*, 163 Mandurah-road, Fremantle, W.A., master baker.

"Improvements in and connected with doors for lifts, lift shafts, and for other purposes."

Classes 59.2; 81.5.

2538. 17 Feb. *Comp. lapsed.*

J. McCracken, Chandos-street, Ashfield, N.S.W., gentleman.

"An improved cardboard box for cigarettes and the like."

Class 48.5.

2539. 17 Feb. *Prov. only.*

A. Nordström, 1 Princes-street, Sydney, N.S.W., engine-driver.

"An improved block of that class known as a 'fairlead.'"

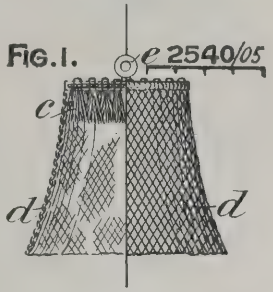
Class 59.1.

2540. 17 Feb. Lucy Hooker, 95 Elizabeth-street, Sydney, N.S.W., gentlewoman.

Incandescent mantle; upper disc with multiple tufts of hemp.

Class 23.5.

The top of the mantle is a disc of asbestos below which a brush of tufts of hemp **c** is sewn; an external mantle of stockinette **d** is attached as usual; the whole is saturated with a solution of the incandescing earths.



3 *typed pages*, 1 *claim*; 1 *fol. drg.*, 3 *figs*.

2541. 17 Feb. *Prov. only.*

F. J. Clendinnen, Williams-road, Hawksburn, Vic., medical practitioner.

"An improved fastening especially adapted for securing envelopes."

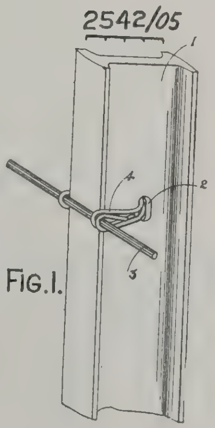
Class 49.3.

2542. 17 Feb. H. Butters, Lethangie, Havelock North, Hawkes Bay, N.Z., settler.

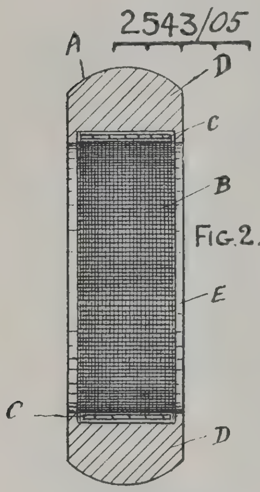
Hairpin tie for fence wires.

Classes 58.4; 81.8.

The fence wires **3** are tied to the standard **1** by a long wire staple **4** which passes around the wire **3**, then through a hole **2** in the standard, and is again twisted around the wire **3**.



3 *typed pages*, 3 *claims*; 1 *fol. drg.*, 5 *figs*.



2543. 17 Feb. A. Kohn, Auckland, N.Z., watchmaker and jeweller.

Rheumatic ring or anklet; zinc and silver elements.

Class 87.8.

The ring or anklet **A** (of gold or other metal) is lined with an inner ring **B** of zinc **C** wrapped in netted silver wire. The space **D** may be filled with absorbent cotton or the like.

5 typed pages, 2 claims; 1 fol. drg., 4 figs.

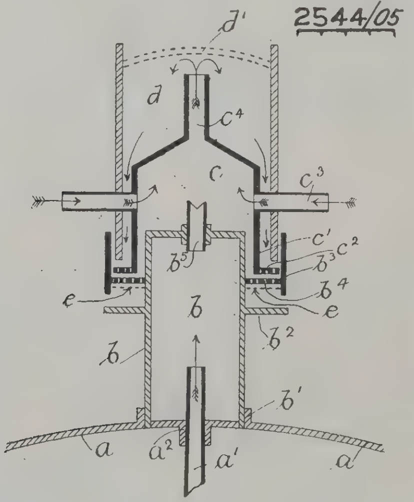
2544. 17 Feb. *C.a.P.* 30 June.

A. A. Stephenson, Perth, W.A., gas engineer.

Vaporizer for primus burners.

Classes 23.3; 23.5.

The oil is lifted by air pressure from the cistern **a** into a vaporizing chamber **b**, and thence into an upper chamber **c**. Air enters by side pipes **c3**, is mixed with the oil vapour, and the mixture passes upward till it strikes against plates of wire gauze **d1**, where it is ignited. Part of this mixture of oil vapour and air rebounds and passes downward through bypasses **c2**, **b4**, and is ignited at **e** so as to heat the vaporizing chamber **b**.



Prov. 3 *typed pages.*
Comp. 3 *typed pages,* 1 *claim;* 1 *fol. drg.,* 1 *fig.*

2545. 17 Feb. *Prov. only.*

G. R. Lawrence, Perth, W.A., gentleman.

"Submarine switchback car and railway for same."

Class 53.5.

2546. 17 Feb. *Prov. only.*

M. S. Bell, 7 Tenth-avenue, Mayfair, Johannesburg, Transvaal, engineer.

"An improved anti-incrustation fluid for steam boilers."

Class 83.1.

2547. 17 Feb. *Prov. only.*

R. H. Crook, 82 William-street, Melbourne, Vic., inventor.

"Means for utilising tidal energy for operating machinery."

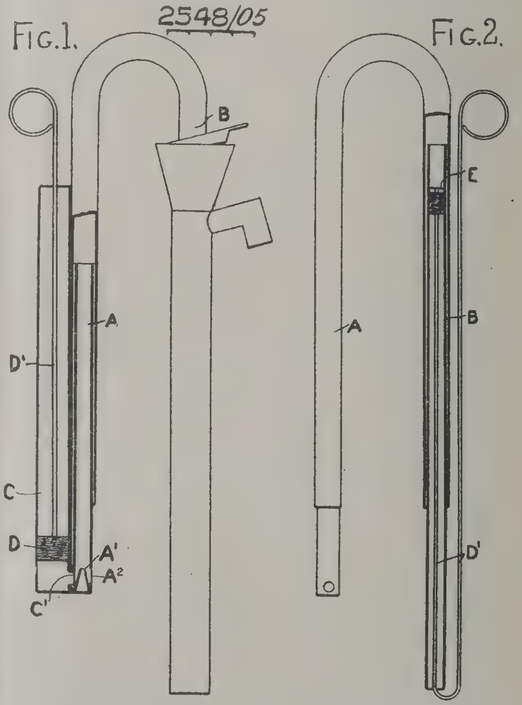
Class 82.4.

2548. 17 Feb. *C.a.P.* 17 Nov.

A. J. Billows, Nundah, Qld., manufacturing chemist.

Starting siphons by telescopic pump legs.

Class 22.4.



The legs **A B**, Fig. 1, of the siphon are made telescopic to suit vessels of varying depth. On the outside of the shorter leg an ejector **C** with bucket **D** and rod **D1** is attached, the passage

C1 communicating with the shorter leg by **A**, while the deflector **A1** sends the liquid displaced by the downward movement of the bucket up the leg **A** instead of through the inlet **A2**.

Fig. 2 shows the bucket **D** placed in the longer leg **B**; it is provided with a valve **E**, and attached to the bent rod **D1**.

Prov. 2 *typed pages.*

Comp. 4 *typed pages,* 3 *claims;* 1 *fol. drg.,* 2 *figs.*

2549. 17 Feb. *Prov. only.*

A. A. SURPLICE, c/o R. S. Ireland, 40 Domain-street, South Yarra, Vic., civil engineer.

"An improved funnel for filling bottles and the like."

Class 57.4.

2550. 18 Feb. *Prov. only.*

R. T. HAINES, Swanston-street, Melbourne, Vic., agent.

"An improved cinematographic process."

Class 53.4.

2551. 18 Feb. W. CARTER, 62 Bothwell Circus, Glasgow, Scot., lithographic printer.

Application under Sec. 7, patented in—
Vic. ... 21,426 ... 21st July, 1904.

Pneumatic paper sheet feeder for litho. machines, &c.

Classes 48.3; 51.3; 61.5.

Fig. 3.

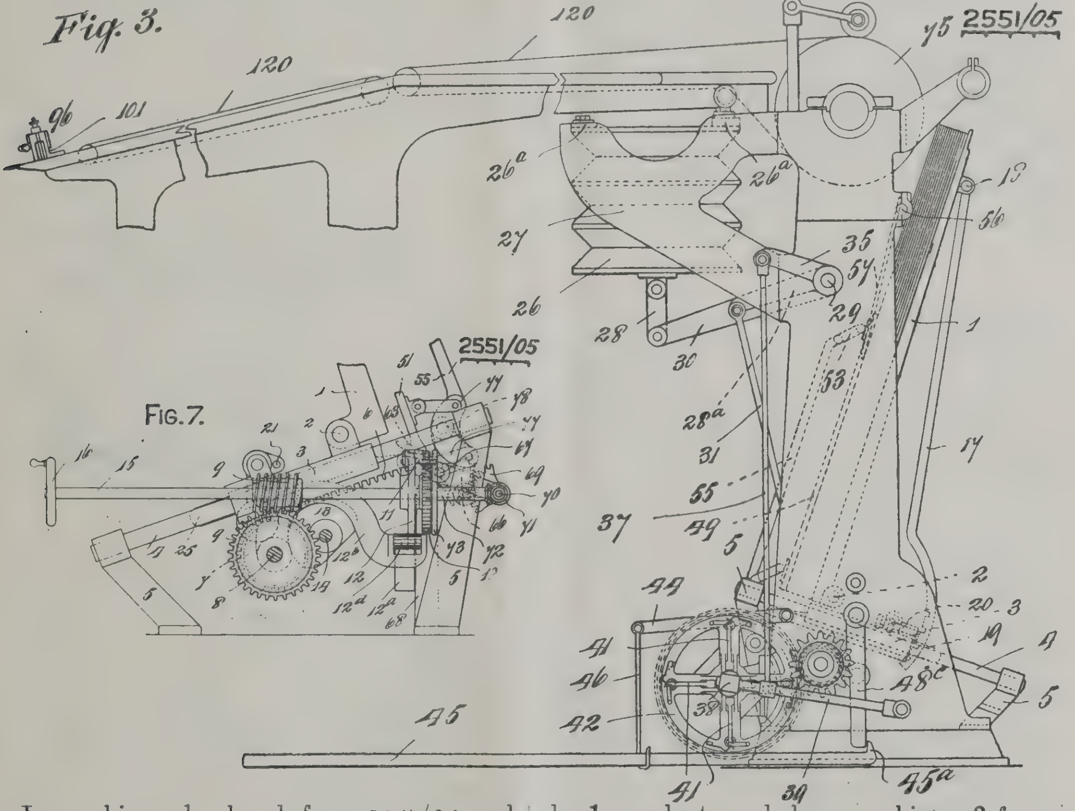


FIG.7.

In machines developed from *1257/04* and G.B. *6389/01*, in which sheets of paper are picked up by a suction aperture in the roller **75** from a nearly vertical holder **1** and fed to the tapes of a printing machine, numerous details are developed.

The holder **1** slides on bars **4**, and is fed forwards by ratchet gear **11**, Fig. 7, through a worm shaft **15**, gear **7**, and rack **6**.

The holder may be set at different angles by back stays **17** with notched lower ends **19**, and locking pine operated by cranks **21**. The holder **1** may be turned down on hinges **2** for refilling with paper sheets.

The suction bellows **26** is opened by the weight of its loaded bottom **26**, and is closed upwardly by links from a rock shaft **29** driven from a cam on the main shaft **14**, Fig. 7; a wheel **44** is geared to the same shaft and carries four radial pawls or latches **41**, one of which (when a sheet is missed and the bellows falls, or when the paper is all fed and the arm **39** with roller head **38** falls) is pushed into engagement with the stop gear links **44**, **46** and **45** so that the catch **45a** is engaged by the constantly vibrating arm **48c**, and the check rod **45** is pulled.

The rate of forward feed of the holder **1** is adjusted for thick or thin paper by the agency of a frame of fingers **57**, **49**, hung from the bar **56** by a parallel motion linkwork **29**, **55**. The fingers bear against the front of the pile of sheets and the frame is lifted by the cam **13**, Fig. 7, as each sheet is fed. The lower end of the frame has a curved cam plate **63**, which is geared to a cam that lifts the feeding pawl of the ratchet gear **11** for a varying period according to the drop due to the thickness of the removed sheet.

When double inking is performed, the finger frame is not lifted at each rotation, the cam **13** being made inoperative at alternate turns, so that only one sheet is fed for two revolutions.

A gauge **96**, Fig. 3, has a finger that falls on the edge of each sheet as it is fed down the tapes **120**, and drags its leading edge into exact "register" against the stop; the finger is lifted and dropped by a link rod from the feeder.

11 *typed pages*, 11 *claims*; 8 *fols. drgs.*, 26 *figs.*

2552. 18 Feb. W. Burrell, 193 Abbotsford-street, North Melbourne, Vic., mechanic, and W. McMeekin, 547 Flinders-street, Melbourne, Vic., merchant.

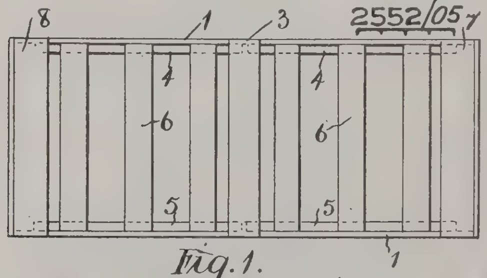


Fig. 1.

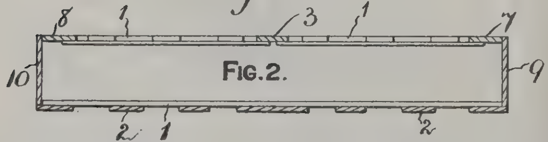


FIG. 2.

Rabbit crates, and method of packing.

Classes 35.3; 57.2.

The crate is the length of two rabbits and holds two layers; the lower layer of rabbits is placed on their backs, leaving a space in the centre of the crate so that the haunches of the upper layer will fit in the central space; the fore feet of the upper layer are made to rest on the bellies of the lower layer.

The covers are two loose grids of battens, having longitudinals **4**, **5** that may be passed under the cross battens **3**, **7**, **8** of the case after it is filled, and are prevented from shaking out by the elasticity of the carcases.

3 *typed pages*, 2 *claims*; 1 *fol. drg.*, 4 *figs.*

2553. 18 Feb. *C.a.P.* 27 Oct.

J. Robinson, Laverton, Vic., farmer, and W. Stocks, 136 Lygon-street, Carlton, Vic., engineer.

Elastic tyre; spiral springs bedded in rubber.

Classes 97.6; 97.81.

A hollow tyre is distended by a spiral coil of spring wire **A** embedded in its layers, to avoid the use of pneumatic inflation and the difficulties caused by punctures.

The inner layer of canvas **C** is wound on a straight former and covered with india-rubber solution, then the wire **A** is wound on, after which layers of unvulcanized sheet rubber **D**, solutioned canvas or green hide, &c., **E**, and an outer casing of rubber **G**; a flat tread on the former may be filled by a strip **F** with clamfered edges.

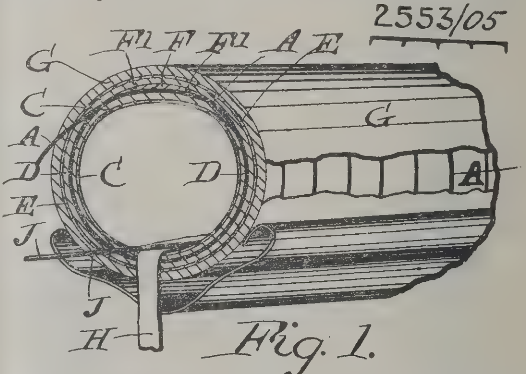


Fig. 1.

After removal from the former, the tube is coiled into a ring, the ends of the spiral wire are joined and the tube layers are joined up airtight, with the internal wire **J** and its supporting band **H**.

A temporary air valve is fitted, and the tyre is inflated and vulcanized in a mould under pressure, after which the air-valve is removed and the air released, producing a tyre of long life unaffected by puncture.

The retaining wire **J** is tightened by wing nuts on the ends, which protrude inside the wheel, but in some cases this means of securing the tyre may be omitted.

Prov. 4 *typed pages.*
Comp. 7 *typed pages,* 1 *claim ;* 1 *fol. drg.,* 5 *figs.*

2554. 20 Feb. *Prov. only.*

J. Affleck, Gibney-street, Subiaco, W.A., carpenter.

"Automatic wheel lock."

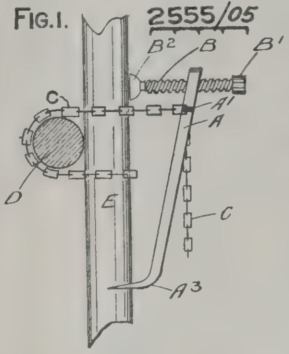
Class 93.3.

2555. 20 Feb. *C.a.P.* 13 Oct.

W. H. Bowser, Green-terrace, Swan Hill, Brisbane, Qld., contractor.

Cramp for scaffolds ; lever, chain, and screw.

Class 81.3.



The lever **A** has a crescent dog at the end **A3**, and is tightened by the screw **B**. The chain **C** is fastened at one end to **A1**, is passed round the joist or rail **D**, then round the pole **E**, and back again over **D** to a hook or catch behind **A1** on the lever.

Prov. 3 *typed pages ;* 1 *fol. drg., figs.* 1 *to* 7.
Comp. 4 *typed pages,* 1 *claim;* 1 *fol. drg., figs.* 8 *and* 9.

2556. 20 Feb. *Prov. only.*

J. Lemire, Drummondville, Drummond, Quebec, Canada, gentleman.

"Railway signalling system."

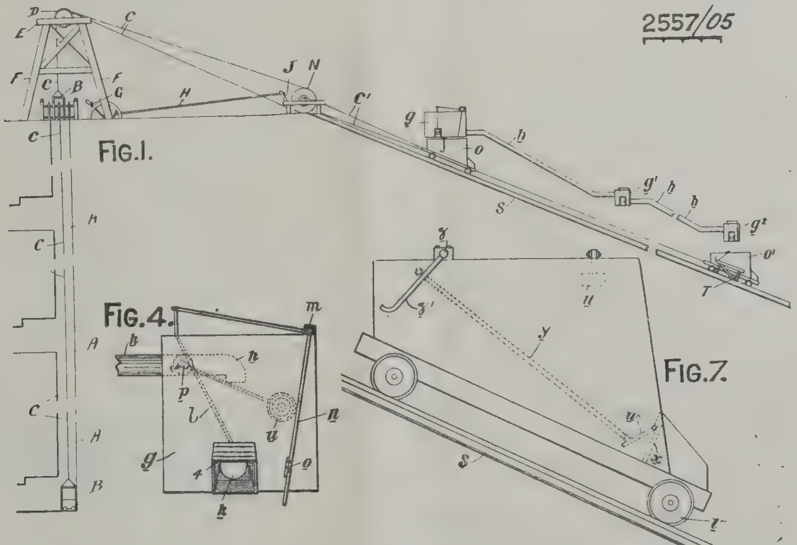
Class 99.2.

2557. 21 Feb. *C.a.P.* 13 Oct.

J. Strathern, Auckland, N.Z., agent (*nominee of* W. Moorcraft, *act. inv.*, Coromandel, Auckland, N.Z., mine manager).

Water tank gravity operated winding plant.

Classes 59.2 ; 62.1 ; 68.1.



Winding ropes **C**, Fig. 1, attached to cages **B** at the bottom and top of the shaft, pass over sheaves **D** and wind on drums **N** and **P**, Fig. 14, respectively. Placed near the mouth of the shaft is a brake handle **G** attached to a lever **J**, operating the brake band **W** on the boss **X**.

Drums **N**, **P**, **U** and **V** mounted on the shaft **L** are carried on the frame **M**. To the drums **U** and **V** are attached the ropes **C1** which connect to tank trucks **O** and **O1** respectively.

Tank **O**, when filled, descends the inclined tram line **S** and turns the drums which thereby raise cage **B** from the bottom of the shaft, the other cage descends the shaft as the tank **O1** ascends the track.

A winch handle **Y** and pinion **Z** are provided to operate the drums in emergencies. The boss **X1** carries the brake band **W1** which controls the slack drums **P** and **V** when changing levels, these drums being locked and unlocked by means of clutch **b** and handle **c**.

2557/05

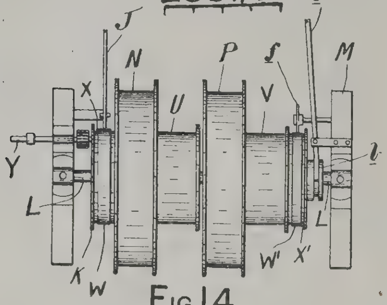


FIG.14

Storage tanks **g**, **g1**, **g2**, Fig. 1, are connected by pipes **h** as shown. The flow is controlled by a valve **p**, Fig. 4, operated by a float **u**. The opening **k** is controlled by a clack (not shown) and rod **l**, which is connected to rod **m**, and operated by tripping rod **n**.

The trucks are emptied by means of a trigger **z1**, Fig. 7, operating clack **w**.

Prov. 3 *typed pages.*
Comp. 8 *typed pages,* 3 *claims;* 5 *fols. drgs.,* 16 *figs.*

2558. 21 Feb. A. BEATON, Barrington River, N.S.W., farm labourer.

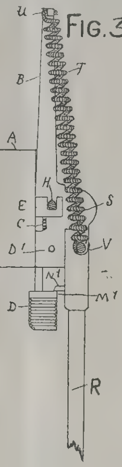
Semaphore signals for judging foot races. Classes 53.3; 99.6.

A portable post **F** may be set at any convenient height in a pegged socket at **G1**; on a transverse batten **A** four or more semaphore arms **K1**, **K4** are hinged normally pointing downwards; the arms are pulled up by springs **T**, when a slight push (from left to right in Fig. 3) throws the pin **V** past the centre line through **S**.

A pin **N1** on the arm **R** holds down a vertical slide **D**, which has projecting cams or wards, which co-operate with notches on pieces **E** attached to a horizontal rod **H** passing all the arm brackets.

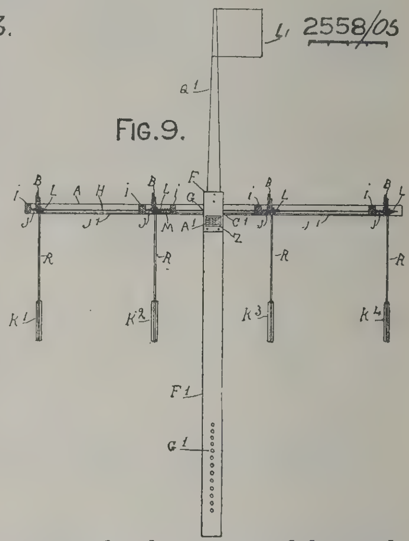
The rod **H** also carries stops which limit the upward motion of all the arms **K** according to its position. The first arm to be touched by a racer rises to the vertical above **H**, and the motion of its slide **D** shifts the rod **H**, so that any other arm **K** can only rise to a lower angle, and so on, each arm touched by a candidate in the race rising to a height indicating his order at the finish.

FIG.3.



2558/05

FIG.9.



The arms may also be connected by cords threaded along the batten **A** to weighted slides in an indicator **Z** on the foot **F**.

10 *MS. pages,* 1 *claim;* 1 *fol. drg.,* 9 *figs.*

2559. 21 Feb. *Prov. only.*

H. V. McKAY, 668 Bourke-street, Melbourne, Vic., machinery manufacturer.

"An improved combined or stripper harvester."

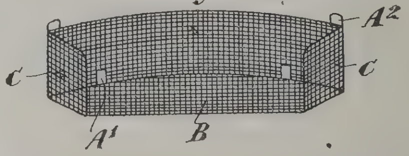
Class 32.3.

2560. 21 Feb. J. H. CLARK, 342 Little Collins-street, Melbourne, Vic., contractor.

Wire basket lining for domestic grates. Classes 24.2; 58.4.

Four wire gratings, connected at the edges, line the curved front bars at **A**, the bottom grate bars at **B**, and the vertical ends at **C C**; poker holes **A1** are formed at the bottom of **A**, and lifting loops **A2** are attached at the corners. The poker holes may have sliding wires which can be let down over them to reduce their size when the grate is to be used for sifting ashes; the end grids **C** promote air admission past the end tiles or plates.

Fig.3 2560/05



3 *typed pages,* 2 *claims;* 1 *fol. drg.,* 3 *figs.*

2561. 21 Feb. *C.a.P.* 20 Nov.

W. L. Conlon, 62 Johnston-street, Annandale, N.S.W., miner.

Water wheel operating a pump to provide its own motive stream.

Classes 62.1; 67.5.

Two combinations are illustrated for providing a continuous water motor, the surplus power being used to drive small farm machinery.

2561/05

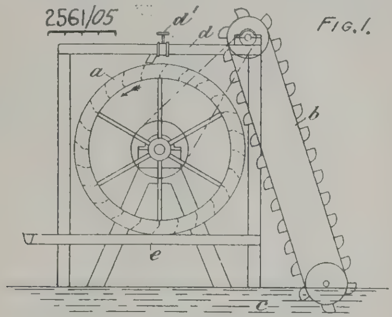


FIG. 1.

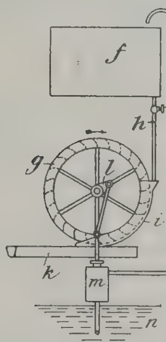


FIG. 2.

Prov. 2 *typed pages.*
Comp. 4 *typed pages,* 1 *claim;* 1 *fol. drg.,* 2 *figs*

2562. 21 Feb. G. A. P. Weymouth, 234 Little Lonsdale-street, Melbourne, Vic., managing director.

Electric elevators; automatic stoppage at a signalled floor, &c.

Classes 04.3; 04.7; 59.2.

At each landing trip switches, operated by a striker on the car, are placed inside the lift well.

The trip switch, Fig. 1, has a fly-over frame **L** with two arms **M**, which are moved respectively on the up or down journey by contact with the striker **W**, Fig. 2, on the cage; the contact is made by the carbon block **S**, Fig. 1, meeting the carbon **U**. A pair of switches are placed at each landing, except the top and bottom, and they may be adjusted vertically by the base slots **H H**.

In combination with the trip switches are two currents reversing solenoid controlled switches **X**, **Y**, **Z** (Fig. 2), one for the up and one for down travel. At each landing is a push button, and a button for each landing is placed in the car.

The buttons **1**, **2**, **3**, **4** at the landings are so connected that, upon the car tripping the switch at the landing corresponding to the push button pressed, the circuit is broken and the car brought to rest.

2562/05

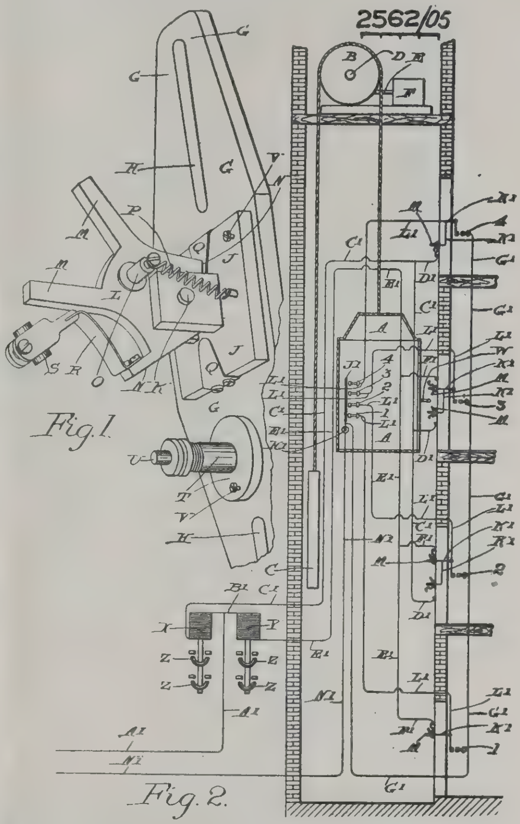


Fig. 1.

Fig. 2.

9 *typed pages,* 5 *claims;* 1 *fol. drg.,* 2 *figs.*

2563. 21 Feb. *Prov. only.*

R. J. Thomas, engineer, and W. F. S. Howe, analytical chemist, both of Mossman, Qld.

"An improved method of clarifying juices in the manufacture of sugar."

Classes 07.5; 33.1.

2564. 21 Feb. *Prov. only.*

The Gregory Coach Building Coy., Winton, Qld., coachbuilders and blacksmiths (*assignees of* J. S. Darrach, *act. inv.*, Winton, Qld.).

"Automatic acetylene gas generator."

Class 21.87.

2565. 22 Feb. L. A. Samuels, Quarry Hill, Bendigo, Vic., mining manager, and W. Holland, King-street, Bendigo, Vic., engineer.

Safety grips for use in mine shafts without skids.

Class 59.2.

The cage or tank is lifted by bolts **D** attached to a false bottom **M** below cage bottom **P**, which rests on springs **O**.

Should the rope break the springs force the bottom **M** down, depressing the levers **L** (pivoted to lugs **J** on the cage bottom **P**) and extending the dogs or grips **K** which engage with the lagging or surface of the shaft.

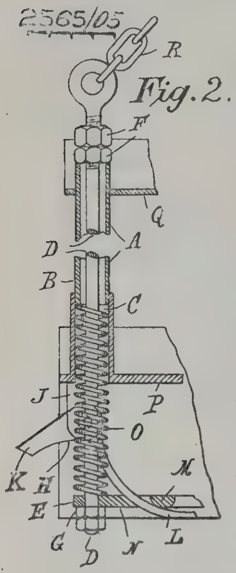


Fig. 2.

6 *typed pages*, 10 *claims*; 1 *fol. drg.*, 4 *figs.*

2566. 22 Feb. *Prov. only.*

A. W. Burbury, Antill Ponds, Tas., pastoralist.

"Improvements in wire fences."

Class 81.8.

2567. 22 Feb. *Prov. only.*

W. A. Clutterbuck, Hindley-street, Adelaide, S.A., machinist, and M. H. East, Mallala, S.A., machinist.

"Improvements in stump jumping ploughs and other cultivating or the like implements."

Class 30.9.

2568. 22 Feb. *Prov. only.*

W. D. Peitro, painter, and J. Bradshaw, blacksmith, both of Horsham, Vic.

"The lightning starting gate."

Class 53.3.

2569. 22 Feb. C. H. Willmore, Starling-street, Leichhardt, N.S.W., saddle-tree maker.

Draught saddle-trees.

Class 39.8.

In development from N.S.W. 427/*88*, 3764/*92*, and 7497/*97*, constructions are shown for light and heavy draught saddle-trees, in which a wooden base has the cross trough lined by a plate **5** with ends **6** turned underneath and riveted through; the terret rings **7** and cantle **13** are attached to cross-bars **8**, also fastened by through rivets or bolts **11**; anti-friction rollers **19** may be provided for the back band.

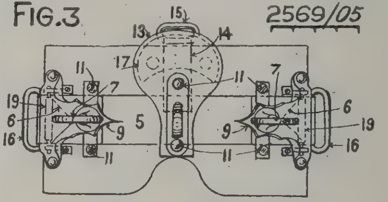


FIG.3

5 *typed pages*, 7 *claims*; 1 *fol. drg.*, 3 *figs.*

2570. 22 Feb. *Prov. only.*

D. White, Berry-street, Nowra, N.S.W., printer and publisher.

"An improved calendar blotting pad."

Class 49.1.

2571. 22 Feb. *Comp. refused.*

F. W. Bracey, Model Swimming Baths, Hilly-street, Mortlake, N.S.W., bath proprietor and engineer.

"Improved sheathing and whaling for pile baths, portable and stationary."

Classes 82.6; 86.1.

2572. 22 Feb. *Comp. lapsed.*

W. Hall, general manager, N.S.W. Shale and Oil Co., and J. W. Rock, engineer, both of Sydney, N.S.W.

"Improvements in paraffin candles."

Class 22.1.

2573. 23 Feb. *C.a.P.* 22 Nov. *Abandoned.*

R. F. Millane, Gladstone-parade, Elsternwick, Vic., engineer.

"An internal combustion engine."

Classes 66.2; 67.7; 95.9.

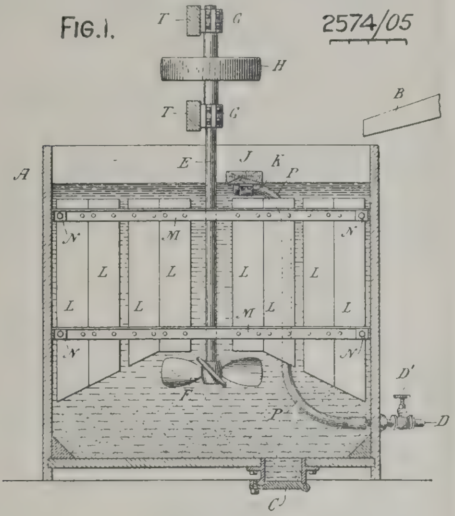
2574. 23 Feb. W. B. Devereux, Glenwood Springs, Col., U.S.A., mining engineer.

Mixing and settling vat for leaching, &c.

Classes 10.8; 12.1; 14.7.

An agitating tank **A** has a propeller **F** placed at such a depth that the solid particles, after settling, will not choke it on re-starting. The tank **A** is divided by radial diaphragms **L** placed vertically to prevent the liquid from rotating and the ore from being deposited around the periphery when settling.

FIG.1. 2574/05



The solution is decanted from the vat **A** by a floating siphon **P**, and the residue is removed at a manhole **C**.

8 typed pages, 10 claims; 2 fols. drgs., 3 figs.

2575. 23 Feb. *C.a.P.* 23 Nov.

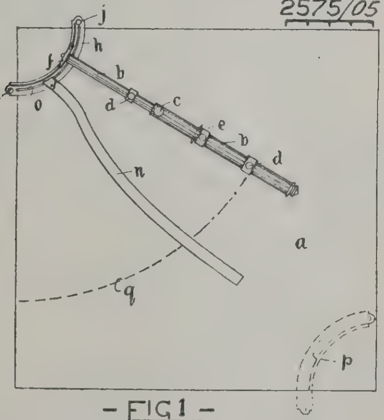
Myra J. Welsh, 67 Carrington-street, Adelaide, S.A., dressmaker.

Beam compass for marking gores for dresses.

Classes 00.2; 43.1.

A telescopic beam **b** has a clamping screw **c** for holding it in position when extended. The beam **b** is graduated in feet and inches and has adjustable sliding pencils **d** or wheel markers **e**. One end of the beam **b** has a guiding wheel **f** which runs in a groove **g** in a waist templet **h**, made of thin sheet metal and held down on the material by pins **j** through holes at each end. A travelling gore tape **n** (which may be bent to the gore outline) is mounted upon a wire or inner slot **o** on the waist templet **h**.

2575/05



- FIG 1 -

Prov. 4 *typed pages.*
Comp. 7 *typed pages,* 5 *claims;* 1 *fol. drg.,* 4 *figs.*

2576. 23 Feb. *C.a.P.* 22 Nov.

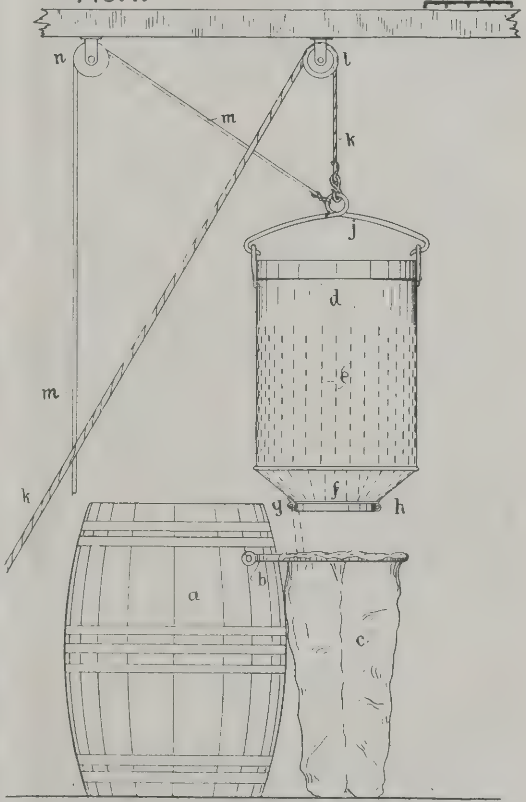
N. McCabe, Pinkerton Plains, near Hamley Bridge, S.A., farmer.

Perforated cylinder for dipping grain for prevention of smut.

Classes 31.5; 32.6.

A cask or barrel **a**, provided with a spreader ring **b** for supporting a sack or bag **c**, is filled with the pickling solution. A perforated copper cylinder **d**, having a hinged bottom **g**, is lowered beneath the solution by a rope and pulley **m**, **k**, **l**. The wheat is poured into the cylinder **d** and each grain as it falls through the solution is thoroughly pickled. When the cylinder **d** is full, it is lifted, drained, and swung over the sack **c** by the rope **k**, and the

FIG. I. 2576/05



pickled grain is discharged into the sack by the bottom door **h**.

Prov. 4 *typed pages.*
Comp. 5 *typed pages,* 4 *claims;* 1 *fol. drg.,* 1 *fig.*

2577. 23 Feb. *C.a.P.* 18 May.

A. Gillies, Terang, Vic., dairyman.

Teat cup imitating the calf's mouth.
Class 36.1.

FIG.7. 2577/05

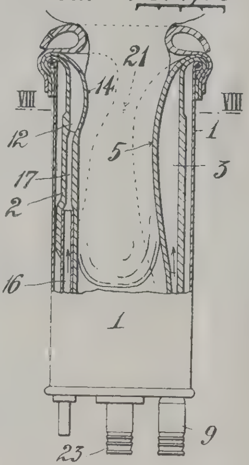
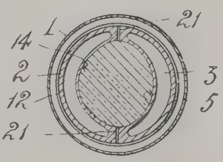


FIG.8.



The rubber liner **2** is moulded with a double thin wall, having an air space at one side **3** for about half the circumference as shown in Fig. 8. This air space extends downwards close to the base and tapers off at the bottom with V-shaped end, so that the internal bag **5** at that side resembles the shape of a calf's tongue. The cavity **3** is connected by tube **9** to a pulsator.

The upper end of the casing **1** is also formed with another cavity **12**, Fig. 8, or inflatable gum **14** at the other side to grip the teat of the cow. The inner surface of both the tongue **5** and gum **14** are ribbed like a calf's mouth to grip the teat. The cavity **12** is in communication with atmosphere by tube **16**. The milk passes through tube **23** to its receptacle.

Prov. 4 *typed pages.*

Comp. 9 *typed pages,* 8 *claims;* 2 *fols. drgs.,* 9 *figs.*

2578. 23 Feb. *Prov. only.*

Violet B. Parker, Rosefield, Melton, Vic., married woman.

"An improved trap for rabbits and the like."

Class 38.7.

2579. 23 Feb. *Prov. only.*

F. Giles, 138 High-street, St. Kilda, Vic., manufacturer.

"Improvements in spraying devices for watering gardens or for chemically treating vegetation."

Class 31.9.

2580. 23 Feb. *C.a.P.* 22 July. *Lapsed.*

G. P. Hughes, 82 William-street, Melbourne, Vic., inventor.

"Wood splitter."

Classes 20.8; 80.1.

2581. 23 Feb. *Prov. only.*

R. J. Fawcett, First-avenue, East Adelaide, S.A., retired master mariner.

"Improved wire joint."

Class 58.3.

2582. 23 Feb. *C.a.P.* 15 Sept.

H. J. Marks, Russell-street, Toowoomba, Qld., architect.

Reversible window or door mounting.
Classes 78.8; 81.5.

To enable a sash **C**, &c., to be reversed, one end **G** has hinge-pins sliding in grooves **B** in the sills, the middle **E** of the sash is linked by bars **D** to one jamb of the opening at **F**. Thus the end **G** may slide across the opening controlled by the link, and either side may be turned in for cleaning or painting, &c.

2582/05

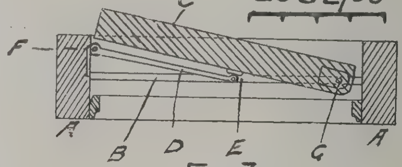


FIG.3.

Prov. 2 *typed pages.*
Comp. 3 *typed pages,* 2 *claims;* 1 *fol. drg.,* 6 *figs.*

2583. 24 Feb. *Comp. lapsed.*

A. J. Cox, watchmaker, and J. Trezona, miner, "The Firs," Pier-street, Perth, W.A.

"A new bar lock for bicycles."

Classes 77.3; 94.9.

2584. 24 Feb. *Prov. only.*

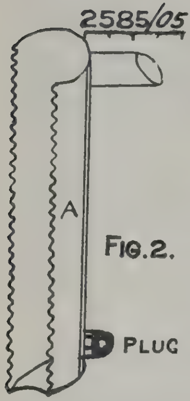
A. F. Rogers, Pimpinio, Vic., farmer.

"Improvements in damp weather drum for strippers and/or harvesters."

Class 32.3.

2585. 24 Feb. *C.a.P.* 22 Mar.

F. Carloss, Rylatt-street, Indooroopilly, Brisbane, Qld., smith's striker.



Rain tank scour overflow.

Class 83.1.

A semi-circular sheet metal trough **A** closed at the bottom, has corrugated edges for soldering outside a rain-water tank, with which it is connected by a hole at the bottom; the sludge collects at the bottom and is removed through a cleaning plug; the top spout carries the overflow.

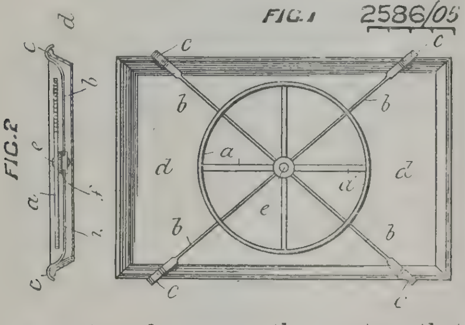
Prov. 2 *MS. pages.*
Comp. 2 *MS. pages,* 1 *claim;* 1 *fol. drg.,* 2 *figs.*

2586. 24 Feb. R. James, Motueka, Nelson, N.Z., builder.

Revolving roaster for domestic use.

Class 24.7.

A baking dish **d** carries on its edges a frame of bars **b**, at the centre of which **e** a wheel or grid **a** is pivoted to carry the meat, so that it may be freely turned round.



3 *typed pages,* 2 *claims;* 1 *fol. drg.,* 2 *figs.*

2587. 24 Feb. J. R. Hatmaker, 25 Rue de la Faisanderie, Paris, France, gentleman.

Digestive dry albumen and milk product.

Classes 09.9; 36.4:

Milk treated by digestive milk agents such as pepsin, pancreatin, or hydrolytic agents like superheated steam, is evaporated to dryness as in Vic. 20,453/*03*. A substitute for human milk can be obtained by adding cream and milk sugar to the changed milk before drying.

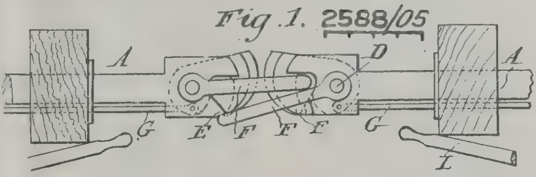
4 *typed pages,* 2 *claims. No drawing.*

2588. 24 Feb. Darling's Patent Automatic Coupling Limited, 79 West Regent-street, Glasgow, Scot. (*assignees of* J. Darling, *act. inv.*, 8 Jedburgh-avenue, Rutherglen, Lanarkshire, Scot., engineer).

Central coupling; laterally operated latch hooks.

Class 96.3.

In a coupling for railway vehicles a slide **A** on the draw bar has a forked head **C**, which carries a hook **E** and a link **F**, both being pivoted on a bolt **D**. The hook **E** is shaped so as to be knocked upwards by the impact of the link **F** of the vehicle to be coupled, after which it falls and engages with that link.



For uncoupling, a rack is connected under the hook **E** by a rod **G**, and is worked by handles **L** (at either side of the vehicle) on a shaft which carries a spring pawl at its centre.

To lock the hook against coupling, the ratchet is made to catch against pieces of metal fixed to the draw-bar, by a lateral movement of the handles **L**. A spring at the end of the draw-bar **B** restores the slide **A** after the impact of coupling; the apparatus may be enclosed in a hollow buffer.

5 *typed pages,* 3 *claims;* 1 *fol. drg.,* 4 *figs.*

2589. 24 Feb. W. Simpkin, *assignee,* engineer, and J. B. Ballantine, *act. inv.*, electro-chemical engineer, Fitzalan House, Arundel-street, Strand, London, Eng.

Briquetting coal slack with uncoagulated blood, afterwards baked.

Class 20.2.

The briquettes are made by mixing about 200 lbs. of blood, which has been treated with 1 per cent. of potassium nitrate, with 10 lbs. of resin and a ton of coal dust, and moulding the mixture. The briquettes are heated at 250 degrees Fah., sufficiently long for the heat to penetrate to the centre to coagulate the blood, and, at the same time, form so-called resinates. To make an extra strong briquette an admixture of 1 to $1\frac{1}{2}$ per cent. of lime with the other ingredients is desirable.

4 MS. pages, 2 claims. No drawing.

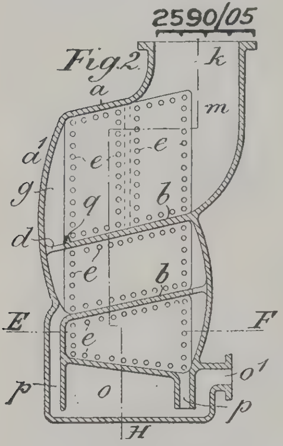
2590. 24 Feb. D. B. Morison, Hartlepool Engine Works, Hartlepool, Durham, Eng., engineer.

Sectional tubular condensers; drainage shelves, &c.

Class 63.8.

Three forms of surface condensers are shown, having parallel sets of water tubes in communicating compartments.

To insure an even distribution and flow of steam in a direction at right angles, or nearly so, to the tubes, steam is admitted to the first of the compartments through a steam distributing chamber **m**, having guide blades to prevent excessive rush of steam opposite the entrance, and promote distribution equally over the entire length between the tube-plates; similarly, at the opposite inlet and outlet sides of the compartments, and adjacent to the ports **d** connecting them, tubeless spaces or passages **g** extend longitudinally throughout the full length of the compartment. These spaces increase in cross-sectional area in a direction towards the connecting ports, so as to lessen the resistance to the flow of steam from one compartment to the next. For this purpose the outer walls of the compartment are preferably curved.



The compartments through which the steam passes successively decrease in size, air being drawn off from the last compartment through the outlet **n**. The water of condensation is led off simultaneously from the different compartments through drain passages **p** leading to a hot well **o**. The upper diaphragm **b** may have guide-ribs leading to a gutter at the lower end of the next diaphragm.

In a lighter construction of apparatus for warships or turbine steamers, the casing **a** is circular, and each compartment is provided with a separate drain passage. The air is withdrawn through a number of passages connected to a common pipe so as to promote a uniform outflow of air; or the outlet end of the last compartment may be provided with a single air-outlet branch and a partition provided, between the lower edge of which and the casing is an opening extending the full length of the compartment.

In a modification working at atmospheric pressure in connexion with steam winches on ship board, and also as an exhaust feed-water heater, the compartments are arranged side by side so that the spaces are at the top and bottom alternately. A drain pipe leads from the lowest part of each pair of compartments to a hot well.

A modification with circular casing and vertical condensing compartments is also illustrated.

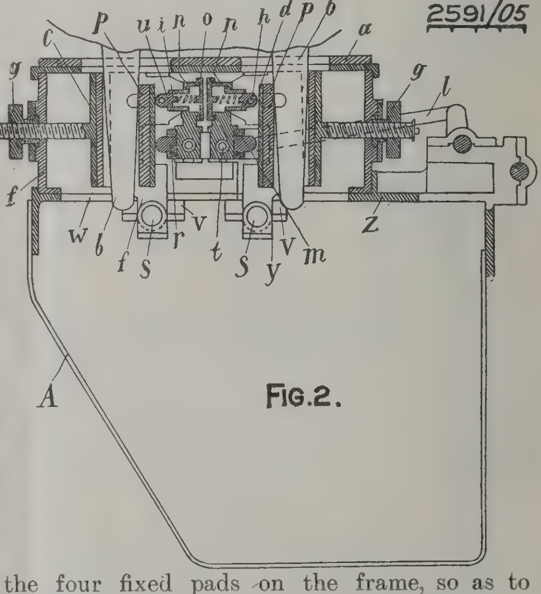
15 typed pages, 9 claims; 4 fols. drgs., 13 figs.

2591. 24 Feb. E. V. Gandil, 125A Ryesgade, Copenhagen, Denmark, engineer.

Mechanically operated teat pads for milking.

Class 36.1.

In this milking machine, each of the four teats is inserted between a pair of adjustable fixed and movable pads **p**; the four movable pads placed between the teats being attached to a central frame which is reciprocated between the four fixed pads on the frame, so as to squeeze the front and back pairs of teats alternately.



The fixed pads are attached to the frame by adjustable screws **z**, and the brackets may be adjusted laterally by screws **s**. The movable pads are attached to flexibly-mounted plates **d** connected with blocks **n**, adjustable in the reciprocating frame **m**, which is driven by the crank and connecting-rod **l**. The four blocks **r** are adjusted in transverse slots by means of two (right and left handed) screws.

The upper parts of the plates **d** have spring supports **h**, so that the pads make an elastic contact with the roots of the teats before the bottom pins **r** come into contact with the lower parts of the plates **d** and squeeze the lower end of the teats. Convex and concave rubber facings prevent the teats from sliding.

The mechanical parts are mounted above a milk receptacle **A** and has a closely-fitting cover **a** with a layer of non-conducting material, and loops for the surcingles or straps by which the machine is suspended from the cow.

8 *typed pages*, 4 *claims ;* 4 *fols. drgs.*, 4 *figs.*

2592. 24 Feb. S. Z. de Ferranti, Lyndhurst-road, Hampstead, London, N.W., Eng., engineer.

Gas turbine system; combustion chamber, &c. Classes 63.1; 66.5; 67.1; 69.6.

For turbines following G.B. 2565/*95*, Fig. 2, shows combustion chambers **f** have air supply pipes **e**, oil or fuel being injected into an inner shell in which combustion takes place. The burnt gases pass through expanding nozzles on to a multi-bladed turbine wheel **m**. The turbine drives a rotary compressor using liquid of the kind described in G.B. 22,846/*02*, which forces the air through a separator **W** and regenerative heaters **d** to the combustion chambers.

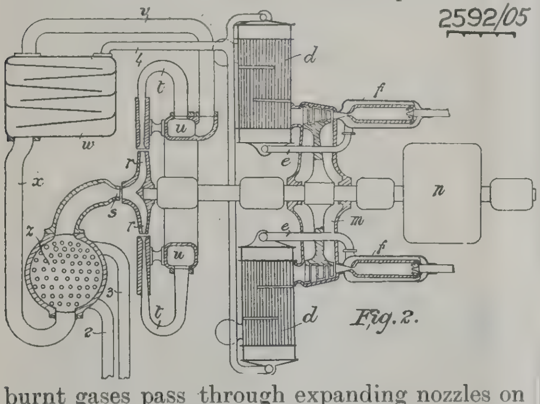


Fig. 2.

In a varied scheme, turbo-compressors are shown. The final stage of compression may be produced by a reciprocating compressor. Two or more compressors may be used together. A power installation has a common receiver, which is supplied with compressed air from several compressors which supply air to the combustion chambers of a series of turbines.

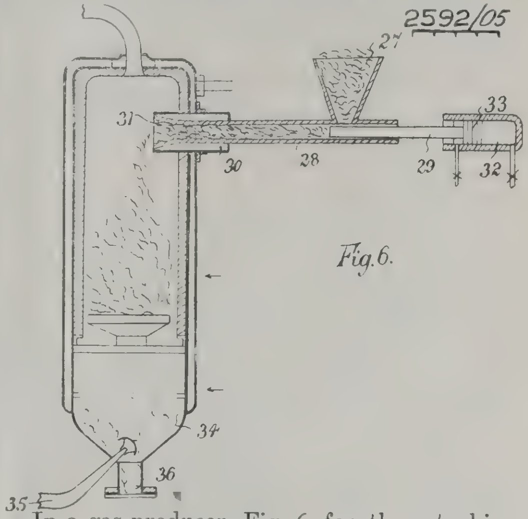


Fig. 6.

In a gas producer, Fig. 6, for these turbines powdered fuel is fed by a ram **29** to the vertical chamber where it falls on a hearth, steam being introduced by the pipe **35** through the ashes **34**, which are removed through lock-chambers that may have hydraulic piston valves, Fig. 8.

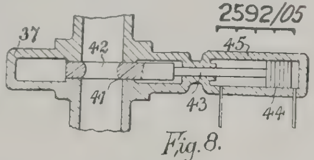


Fig. 8.

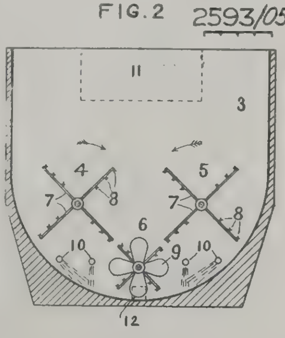
24 *typed pages*, 18 *claims ;* 5 *fols. drgs.*, 9 *figs.*

2593. 24 Feb. S. G. Plucknett, "Clifton," Dickson-street, Newtown, N.S.W., company manager.

Puddler with reversed propeller mixers. Classes 10.8; 12.1.

This apparatus is for use in the plant described in 1005/*04*.

FIG. 2



A semi-circular box **3** has two oppositely inwardly-revolving beaters **4, 5** placed above a third beater **6**, whose spindle carries oppositely pitched propellers **9** at the ends. The beaters **4, 5, 6** have radial arms supporting strips of twisted hoop-iron **8**.

4 *typed pages*, 3 *claims ;* 1 *fol. drg.*, 2 *figs.*

2594. 24 Feb. E. Phillips, 533 Collins-street, Melbourne, Vic., patent attorney (*communicatee of* J. W. Cloud, *act. inv.*, 82 York-road, King's Cross, London, Eng., engineer).

Vacuum brakes; accelerating valves, &c.

Class 96.6.

To quicken the action of the brakes and increase the brake force throughout a train when the brakes are applied, a vestibule reservoir, normally containing air at atmospheric pressure, is provided with means whereby when a sudden small increase of pressure is made in the train pipe for applying the brakes, said reservoir is put into communication with the brake system, so that a portion of the air contained in the reservoir will be discharged into the brake system for the purpose of accelerating the application of the brakes.

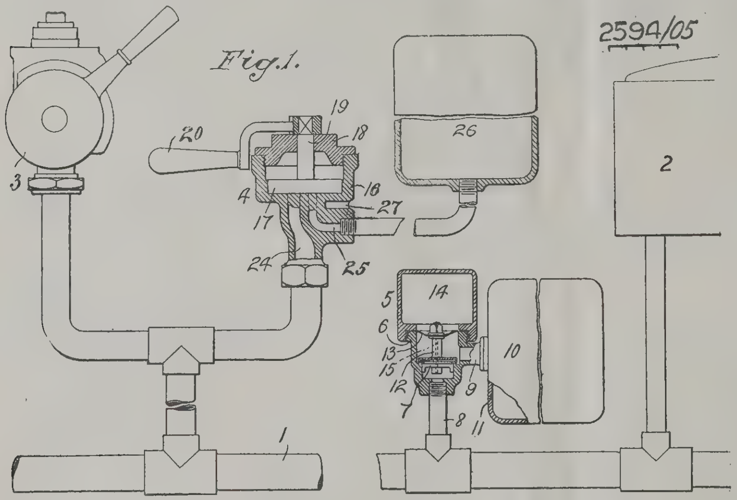


Fig. 1.

In Fig. 1, the train pipe connects the ejector **3** and brake valve **4** with the brake cylinder **2**, accelerating device **5**, and vestibule reservoir **10**, on each car. The capacity of the reservoir **10** is adjusted to limit the rush of air when the perforated valve **7** opens on the sudden admission of air to the train pipe, and gives a quick partial application of the brake, and the valve **7** closes automatically after an interval depending on the relative capacity of the reservoirs 10 and 14, on the proportions of the perforations in valve **7** and reservoir **14**, and on the handling of the valve **4**.

In a modified accelerating device the valve **7** slides on an internal stalk and opens an increased area of perforation when the lift is excessive.

In another modification, Fig. 10, the accelerating device has a horizontal spindle **44**, with the diaphragm and spring at one end, and a slide valve **46** at the other; the chamber **14** being connected by the passage **54** to the slide port **55** instead of through the valve stem. Several variations of this connexion are also shown.

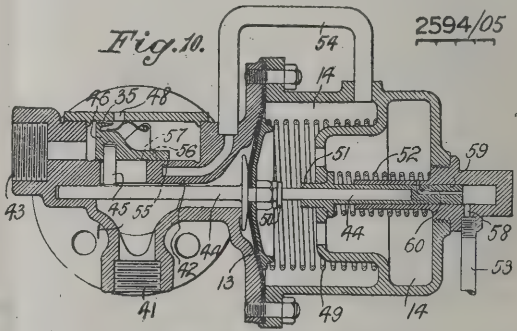


Fig. 10.

In a further modification the brake piston is linked directly to a rotating plug valve with auxiliary air inlet port on the pipes **9** and **8** in place of the device **5**.

15 *letterpress pages,* 8 *claims ;* 6 *fols. drgs.,* 11 *figs.*

2595. 24 Feb. G. S. Mayhew, 2 Basinghall-avenue, London, Eng., engineer.

Band saw and planer for veneers and thin boards.

Classes 80.5 ; 80.9.

Fig. 1 is a plan and Fig. 3 a section at **A B**; the planks to be sawn are introduced to the guide channel **2** at the flared end, and are drawn though by feed rollers **5** and guide rollers **4**, being planed on the near side by a rough planer **6** and finishing planer **11**.

FIG. 1.

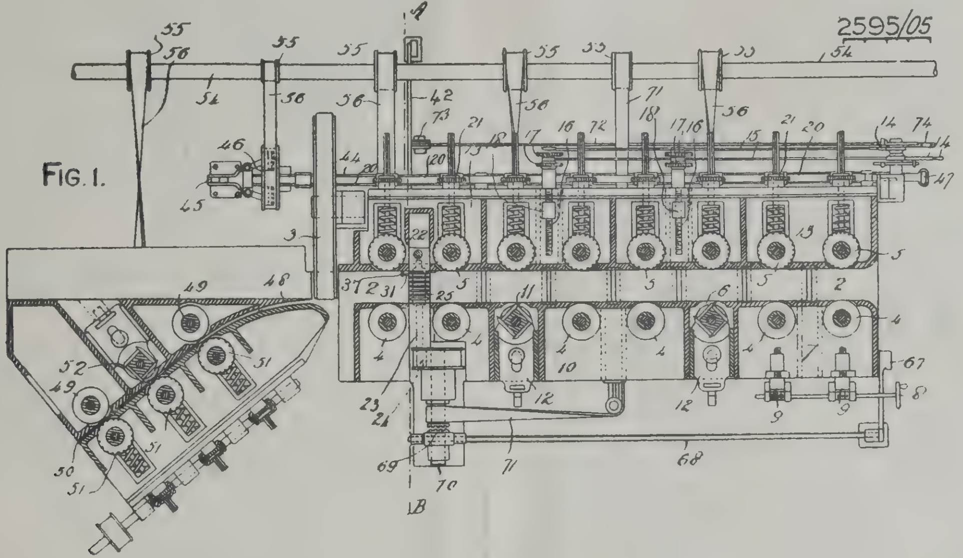
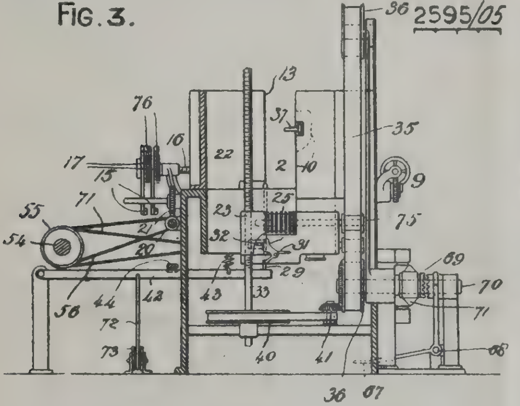


FIG. 3.



The sides of the channel are adjustable transversely, screws **16** moving the whole of one side, while worm gearing **9** operates the first section **7** of the other side, the remaining section **10** and planers **6** and **11** are adjusted independently.

Near the end of the channel **2** a frame **23**, sliding vertically in a slot **22**, is operated automatically by the deal, when its leading end depresses a cam in the channel **2** which moves the lever **42** and stops the feed rollers **5**, at the same time the vertical screw **33** is engaged by half-nut **32**, thus raising the frame **23** with the revolving cutters **25**, adapted to form a series of vertical grooves in the end of the deal, to guide the slicing band saw **3** at the commencement of the cut.

After grooving and planing the front edge, the veneer is cut by a thin circular or band saw blade **3**, and to prevent pinching the back edge of the saw a curved guide or spreader **48** separates the slice from the deal and leads it through a groove **50**, provided with feed rollers **51** and a rotary cutter **52** to smooth off the saw marks.

The arrangement of guiding the deal and forming entrance grooves on its leading end, with the direction of the slice laterally immediately it is cut, allows the use of a particularly thin saw band with very narrow set.

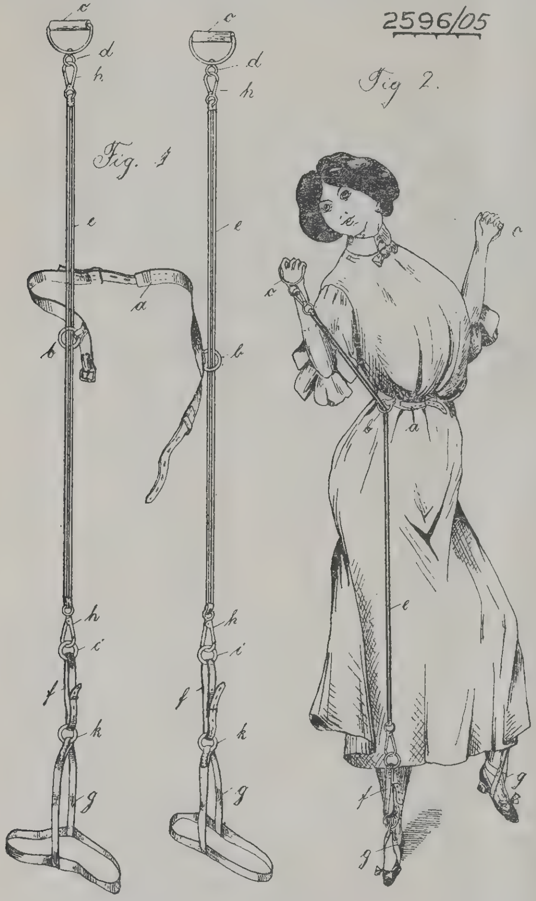
10 *printed pages*, 6 *claims*; 6 *fols. drgs.*, 9 *figs.*

2596. 24 Feb. (*Dr.*) G. Müller, 28 Potsdamerstrasse, Berlin, Germany, physician.

Spring cords with belt guide for exercise.

Classes 53.2; 87.3.

The adjustable waist belt **a** has two rings **b** through which elastic bands **e** are passed from the feet to the hands. The upper ends of which have snap hooks **h** connected to swivelling handles **c**; the lower ends of bands **e** have also snap hooks **h** which are connected by adjustable buckle straps **f** to the foot stirrups **g**.



5 *typed pages*, 5 *claims*; 1 *fol. drg.*, 2 *figs.*

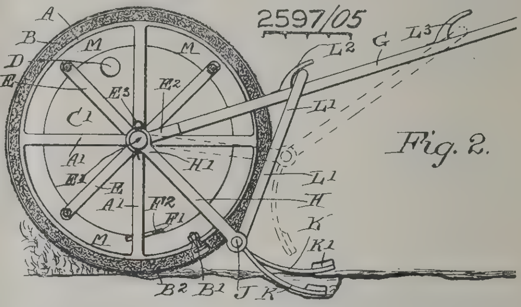
2597. 24 Feb. *C.a.P.* 12 Sept.

W. C. Reeves, Metcalfe, Vic., shire engineer.

Roller for extinguishing grass fires.

Classes 37.8; 88.1.

A perforated roller **A** is covered with a thick pad of matting, &c., which is kept wet by liquid from a central drum **C** slung on an internal frame, and provided with an internal pipe **F** with a regulating tap.

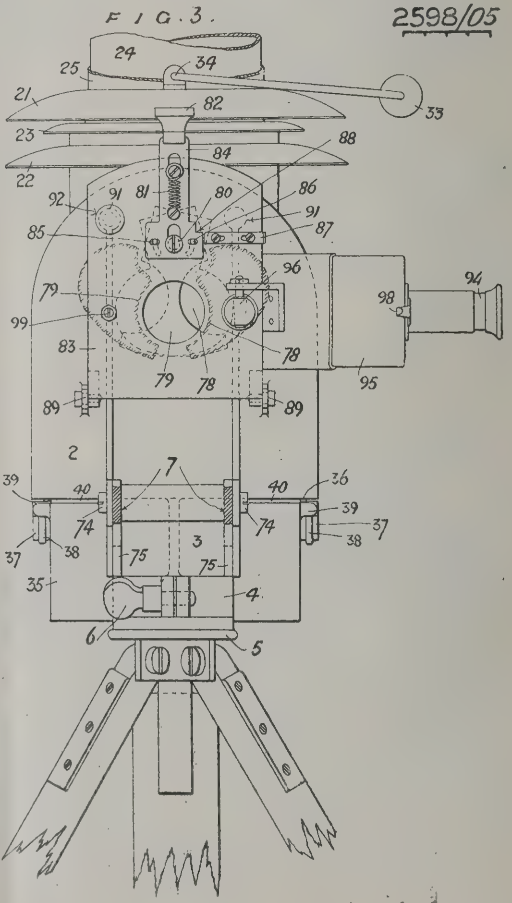


A row of flaps or drags **K** are mounted on a frame **L1** so that they may be drawn back to the dotted position when not required to touch the ground.

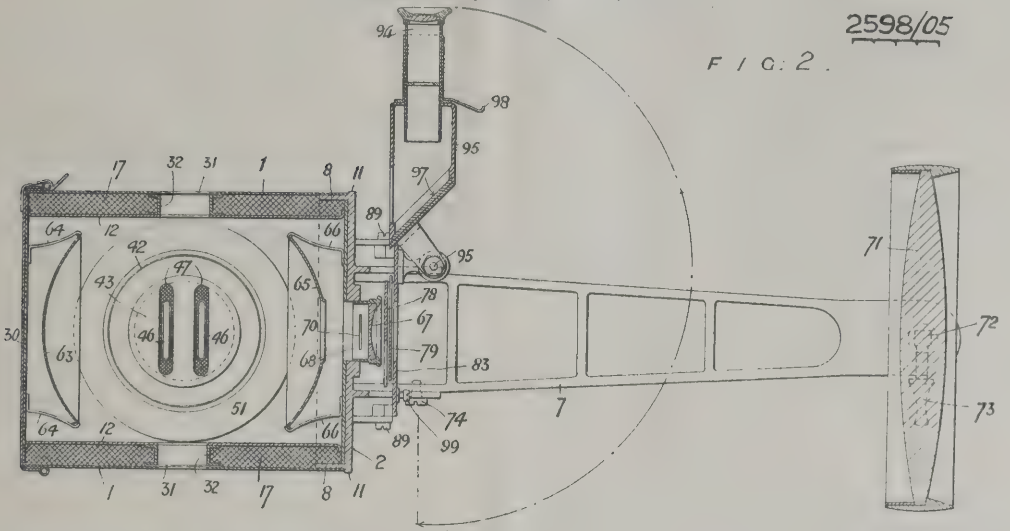
Prov. 5 *typed pages.*

Comp. 8 *typed pages*, 4 *claims*; 1 *fol. drg.*, 4 *figs.*

2598. 25 Feb. A. Rosenberg, 259 High Holborn, London, Eng., engineer.



Military lamp signal, search light, telescope, burners, &c.
Classes 00.4; 22.2; 89.6; 99.6.



A closed lantern, Fig. 3, has a front plate **2**, integral with the bracket casting **3**, attached to the rotatable head **5** of the tripod stand, the split ring **4** being clamped by a thumb-screw **6**; the lantern has double walls in which the air supply is heated; the oil reservoir **35** is supported beneath the outer bottom plate for the purpose of keeping it cool.

The reflectors **63** and **65** are attached by springs **6** to the door **30** and to the front plate; the front reflector **65** has a central aperture through which light passes to the focussing lens **67**.

The source of light may be of any power suited to the work; a multiple flat-wick lamp for oil (without a glass chimney) is illustrated.

The front lens **71** is carried on an arm **7**, hinged at **74** for folding upwards when not in use; the arrangement of the front and back lenses is such as to cause a comparatively narrow beam to be projected.

A telescopic eye-piece for alignment **94**, Fig. 2, is mounted in the box **95**, hinged at **96** for swinging across the line of light, so that the station may be seen by means of the oblique mirror **97**, the lens **71** forming the objective of the telescope.

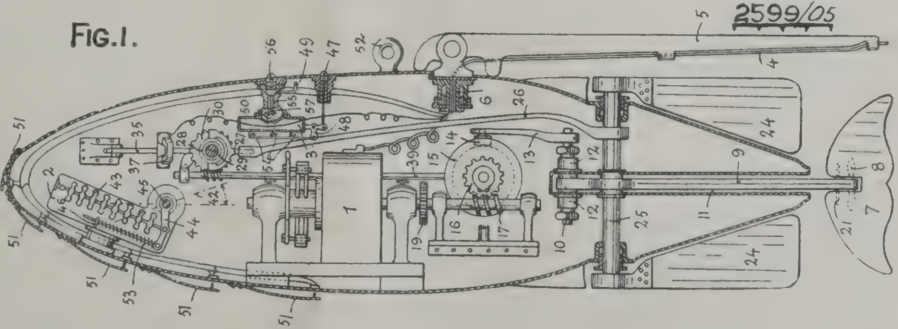
The flash shutter, Fig. 3, has two spring-closed blades **78** and **79**, pivoted about a common axis **80** so as to move in opposite directions, which are separated by the pressure of the finger upon a push button **82**; the shutter may be locked open by the bolt **87**.

21 MS. pages, 12 claims; 6 fols. drgs., 6 figs.

2599. 25 Feb. C. Lie, 22 Rosenberggaden, Bergin, Norway, engineer.

Cable-operated submarine pilot for ships.
Classes 88.7; 91.6; 92.6; 99.6.

FIG. I.



A pilot torpedo or self-propelled submarine pilot vessel, electrically controlled from the ship which it precedes, has indicating apparatus which transmits signals to the ship when the pilot meets any obstacle.

The torpedo has a fish-shaped hull, connected by a multiple cable **4** to the ship; the motor **1** operates a reciprocating cam-drum **15**, by worm gear **16** to **20**, and causes a self-feathering sculling propellor **7** to drive the torpedo in advance of the ship; horizontally-acting rudders **24** are operated by a worm-cam **29**, driven in opposite directions by two worm shafts **39**, either of which may be clutched into gear by electro-magnets having independent wires in the cable; vertical fin rudders or hydroplanes **42** (on a cross shaft **45**) are automatically adjusted by a set of compound expansible diaphragm-cells **43** to which the water pressure is admitted, so that the torpedo may swim on the surface or at a regulated depth suited to the ship's draught.

On the outside of the forward part of the hull are several spring plates **51** which make contact on a bell-circuit when any obstacle is touched.

11 *letterpress pages*, 9 *claims*; 2 *fols. drgs.*, 2 *figs.*

2600. 25 Feb. H. Galopin, Chancery-lane, Melbourne, Vic., instrument maker.

Distributing lamp oil by gravitation with float-closed valves.

Class 22.4.

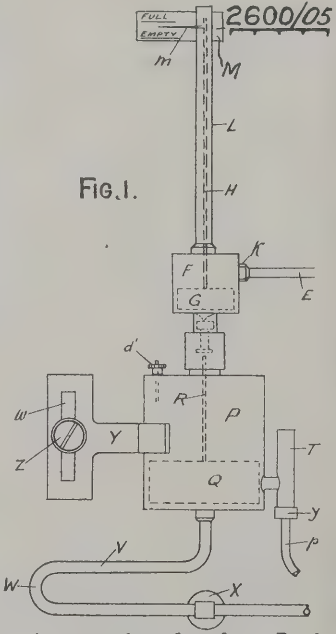


FIG.1.

An oil tin on an elevated shelf is fitted with a starting pump connected to the main service pipe **E**, which forms a siphon-filling distributing chamber **F**; inside chamber **F** the float **G** carries a vertical spindle **H** with an index pointer **m**, which shows "Full" as long as kerosene remains in the tin. From **F** the kerosene flows into main chamber **P**, in which a float **Q** with a vertical rod **R** closes the valve below **F** and maintains a constant level in the service tank **P**.

The flexible service pipe **V** leads to the lamp at the place of consumption. An overflow **T** has an internal pipe **P** which can be adjusted in the stuffing box **Y**.

9 *typed pages*, 5 *claims*; 1 *fol. drg.*, 3 *figs.*

2601. 25 Feb. H. Perkins, Albacutya, Vic., labourer.

Horse scoops; stops and draught details.

Class 84.3.

On the sides of the scoop **A** (slightly above the gudgeon **E**) a projecting stud **F** is fixed, above which the handles **B** may be placed to keep the cutting edge of scoop off the ground when turning, &c.

A metal bar **G** is clamped by bolts **H** to the handles, and may be adjusted by placing its end **I** in any of the teeth **J** cut in the handle; the other end of **G** terminates in a lug **K**, which serves to stop the bridle **C** from rising or the scoop from tipping by reason of its front lip catching in the ground.

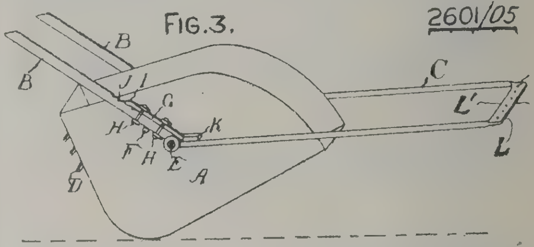


FIG.3.

The front bar **L** of the bridle **C** is perforated for adjusting the draught.

5 *typed pages*, 4 *claims*; 1 *fol. drg.*, 4 *figs.*

2602. 25 Feb. (*Dr.*) K. Kaiser, Berlin, 10 Meierottostrasse, Berlin, Ger., professor of physiology.

Ammonia production using hydrides or nitrides of alkaline earths.

Classes 08.2; 08.9.

When the hydrides of calcium and magnesium are heated in the presence of nitrogen, they are transformed into the corresponding nitrides, and ammonia is liberated; also, when the nitrides of calcium and magnesium are heated in the presence of hydrogen, they are converted into the corresponding hydrides with liberation of ammonia. The reactions may be written as follow:—

$$3CaH + 3N = Ca_3N_2 + NH_3$$
$$Ca_3N_2 + 9H = 3CaH + 2NH_3$$

A cyclic process is thus obtained in which ammonia is produced in each operation; water-gas may be used as a source of hydrogen, or as a mixture of hydrogen and nitrogen with inert gases.

5 *typed pages*, 4 *claims*. *No drawing.*

2603. 27 Feb. *C.a.P.* 15 Nov.

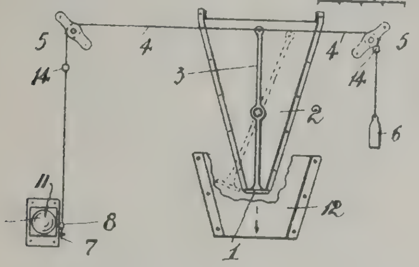
H. Perry, 97 Bridge-road, Richmond, Vic., boot manufacturer (*communicatee of* G. C. Webster, *act. inv.*, Lawrence, Mass., U.S.A., provision dealer).

Alarum released hopper for horse feed.

Classes 00.1; 37.1; 39.3.

The main hopper **2** has a valve **1** on a pivoted lever **3**, moved by a weighted chain **4** passing over pulleys to a trigger **8** on an alarum clock. The trigger is formed by passing a pin **7** through a small hole in the clock winder so that it is withdrawn from the loop of the chain when the alarum operates, whereupon the valve **1** is moved sideways, the feed falls into the feed-box, and the ringing of the bell **11** awakens the horse.

Fig. 1. 2603/05



Prov. 3 *typed pages.*

Comp. 4 *typed pages*, 4 *claims;* 1 *fol. drg.*, 3 *figs.*

2604. 27 Feb. *Comp. lapsed.*

V. L. Solomon, Grenfell-street, Adelaide, S.A., importer.

"An improved multiple saw bench and appliances connected therewith."

Classes 20.8; 80.5.

2605. 27 Feb. *Prov. only.*

E. Smith, 89 King William-street, Adelaide, S.A., coachbuilder.

"Improvements in or relating to the driving gear of bicyles and similar vehicles."

Class 94.5.

2606. 27 Feb. A. Wedekind, Neuerwall, No. 36^1, Hamburg, Ger., manufacturer and merchant.

Lalande cells; metal cells with attached cupric oxide.

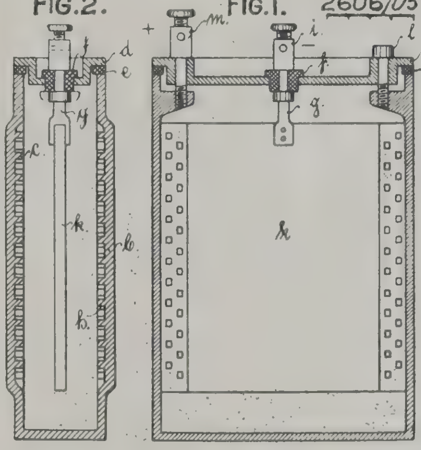
Class 07.1.

In batteries of the Lalande type, the copper oxide or other oxidizing material is pasted on the inside walls or partitions of the cells, which are suitably formed to support it.

In Figs. 1 and 2, the sides **b** of the cell, which is made of cast-iron or steel, bronze, copper, &c., are rounded out and are provided with projections **c**, or with vertical dove-tailed grooves, which may be narrower at the top than at the bottom.

The zinc or other negative electrode **k** is secured to a pin **g**, which passes through a vulcanite piece **f** inserted in a hole in the cover **d**, and terminates in a binding-screw **i**.

FIG. 2. FIG. 1. 2606/05



The cover **d**, having an india-rubber washer **e**, is fixed to the cell by screws **l** or otherwise, one of the screws being provided at its upper end with a binding-screw **m** which serves as the positive terminal.

To regenerate the element, the zinc plate is removed, the alkaline electrolyte is poured out, and the cell is heated or dried in the open air to re-convert the reduced copper to the oxide.

A modification has a cylindrical cell, with an annular zinc electrode.

6 *typed pages*, 3 *claims;* 4 *fols. drgs.*, 9 *figs.*

2607. 27 Feb. *Prov. only.*

M. Moore, 314 Collins-street, Melbourne, Vic., mining agent.

"An improved composition for making refractory bricks, furnace linings, tuyeres, retorts, crucibles, and the like."

Class 19.2.

2608. 27 Feb. *Prov. only.*

M. Moore, 314 Collins-street, Melbourne, Vic., mining agent.

"An improved composition for making refractory bricks, furnace linings, tuyeres, retorts, crucibles, and the like."

Class 19.2.

2609. 27 Feb. *C.a.P.* 3 Oct.

Sarah Marks, 191 Blyth-street, Brunswick, Vic., married woman, and J. Bishop, 169 Ferrars-street, South Melbourne, Vic., manufacturer.

Butter box with paraffined lining.

Class 57.2.

Cardboard, strawboard, veneer board, or like material is impregnated with highly-rectified paraffin of melting point 178° Fah., and formed into attached or removable pieces to make a complete inner lining for the usual wooden box, so as to prevent ordinary or resinous woods from contaminating the butter.

Prov. 1 *MS. page.*
Comp. 2 *typed pages,* 1 *claim.* *No drawing.*

2610. 27 Feb. *Prov. only.*

G. Coleman, 366 Elizabeth-street, Hobart, Tas., gentleman.

"Device for holding wood whilst being split."

Classes 20.8; 80.5.

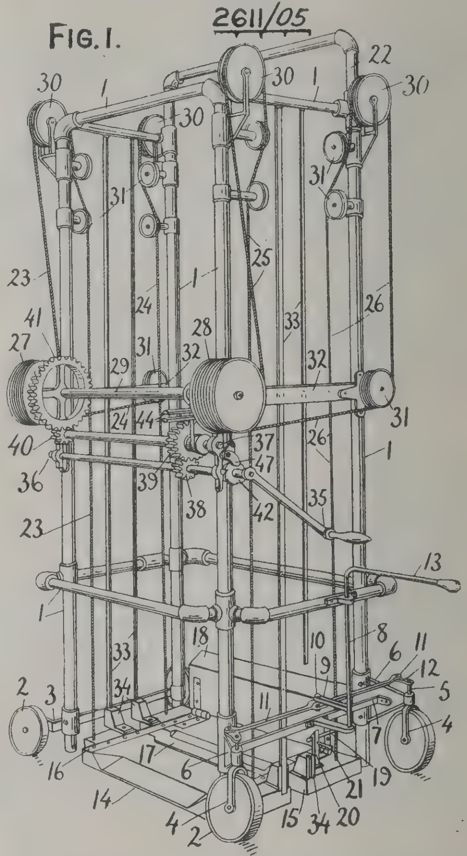
2611. 27 Feb. T. J. McCarthy, 619 Market-street, San Francisco, Cal., U.S.A., architect.

Portable platform hoist; winch operated.

Class 59.1.

A vertical frame **1**, constructed of piping, is mounted on four wheels **2**, one pair being steerable by a handle **13**. A platform **14**, with a hinged backboard **18**, slides on guides **33**, and is raised by ropes **23** to **26** attached to the corners and passing over pulleys **30**, **31**, to two drums **27**, **28**, which can be rotated by a handle **35** and gear wheels **38** to **41**; the axles **29** and **37** have a band brake **44**.

Fig. 1.



In an alternative arrangement the frame and hoist is mounted on a turntable carried on a four-wheeled truck.

9 *printed pages,* 14 *claims;* 2 *fols. drgs.,* 10 *figs.*

2612. 27 Feb. *Comp. lapsed.*

A. Thomson, Lismore, N.S.W., ironmoulder.

Mixture for lamp oil; hydrocarbons and vegetable oils, &c.

Classes 20.6; 23.5.

A compound illuminating oil is prepared by mixing equal parts of gasolene of 100 degrees test, kerosene of 150 degrees test, and a vegetable oil such as olive, colza, or cotton seed, for use with incandescent mantles, and a strong draught of air through the oil.

3 *typed pages,* 1 *claim.* *No drawing.*

2613. 27 Feb. J. A. DOUGLAS, 114 Hargraves-street, Paddington, N.S.W., tram conductor.

Leather cover for pneumatic tyres.

Classes 97.83; 97.89.

Instead of the ordinary exterior rubber casing a leather cover **a** is used over the inner tube **b**. Wires **a**¹ are sewn round the edges of the leather cover to enable it to be attached to the wheel rim.

2613/05

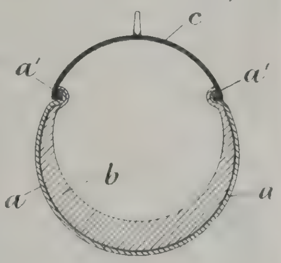


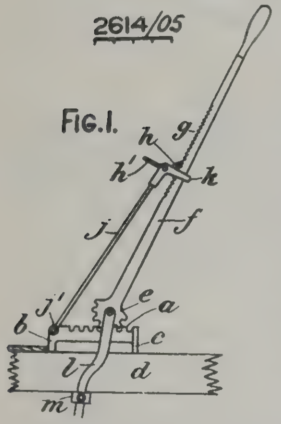
Fig. 1

4 *MS. pages*, 3 *claims*; 1 *fol. drg.*, 2 *figs.*

2614. 27 Feb. J. A. BERTHELSEN, South Murwillumbah, N.S.W., blacksmith.

Level flooring clamp.

Class 80.3.



The yoke **m** under the joist is adjusted to have very little slack, so that a slight backward movement of the lever **f** grips the joist, and further motion pushes the rack **d** towards the boards and cramps them; as the lever is pressed back, the rider **k** and pawl **h** slip down the rack **g** and lock the cramp.

4 *typed pages*, 1 *claim*; 1 *fol. drg.*, 2 *figs.*

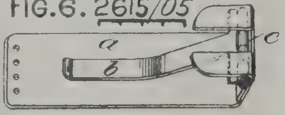
2615. 28 Feb. W. J. DOWNES, 76 Newgate-street, London, Eng., manufacturing wholesale and fancy stationer.

Book-clasp marker and fastener.

Class 48.7.

An ordinary hinged book-clasp **a** is fitted with an extra hinged tongue **b**, which may be used for a book-clip or a book-marker as required.

FIG.6. 2615/05



6 *MS. pages*, 1 *claim*; 2 *fols. drgs.*, 7 *figs.*

2616. 28 Feb. W. H. CHAPMAN, 58 Fore-street, Portland, Cumberland, Maine, U.S.A., electrician.

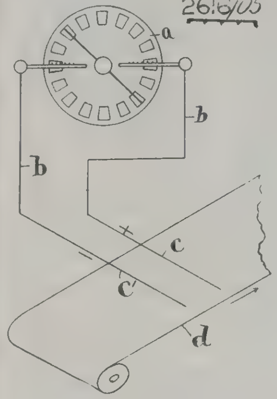
Discharging electrified paper, &c.

Classes 02.6; 41.7; 48.3.

Static electricity on paper, mohair, yarn, and other material is neutralized by convective discharge from two conductors, having charges of high voltage and constant polarity but opposite sign.

Two wires **c**, or conductors provided with projecting points, are connected through wires **b** to the poles of a Wimshurst machine **a**, and placed sufficiently near each other to allow of a convective discharge from one to the other, and sufficiently far apart to maintain the two conductors always at a high potential.

2616/05



The web **c** of paper, &c., to be treated is made to pass under or near to the conductors **c** so as to come under the influence of both conductors.

In place of the Wimshurst machine, any other convenient source may be used, such as an alternating-current transformer, in which case the transformer must be connected to the conductors **c** through a rectifier, in order that the conductors may be always charged with electricity of the same polarity.

7 *typed pages*, 2 *claims*; 1 *fol. drg.*, 1 *fig.*

2617. 28 Feb. *C.a.P.* 28 Nov.

J. BROWN, 440 Elizabeth-street, Melbourne, Vic., spring maker.

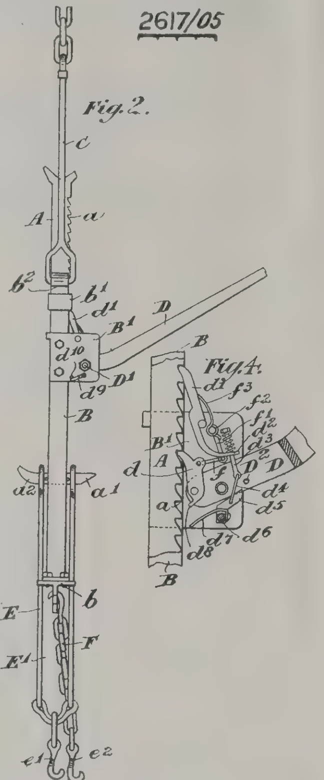
Rack and lever jack; cramp or stump puller.

Classes 30.2; 59.1; 80.3.

The rack bar **A** slides between two frame bars **B**, and has a cross foot with projecting claws **a1**, **a2**; the frame bars have a toothed foot **b**. Chains may be attached by yoke links **E** and **C** to the claws **a1**, **a2** below, and to hooks **b1** on the frame bars, for traction purposes.

The lever **D** rocks between frame cheek plates on a pin **D1**; the lifting pawl **d** and detent **d1** are linked by **f** and **f3** to a finger-piece **f1** to facilitate tripping, the detent or trip-finger **d5** may be operated by an external finger-piece **d9**.

2617/05



Prov. 3 *typed pages.*
Comp. 5 *typed pages,* 4 *claims;* 1 *fol. drg.,* 4 *figs.*

2618. 28 Feb. L. C. Rugen, factory superintendent, and H. Abraham, chemist, Bound Brook, Somerset, New Jersey, U.S.A.

Coating and covering tarred roofing fabrics.

Classes 41.7; 46.4; 79.4.

In colouring waterproof coverings such as those used for roofing and flooring, the pigment is mixed with a carrier or flux consisting of a mixture of resins with fats, waxes, or oils in the molten condition, and is applied under heat and pressure.

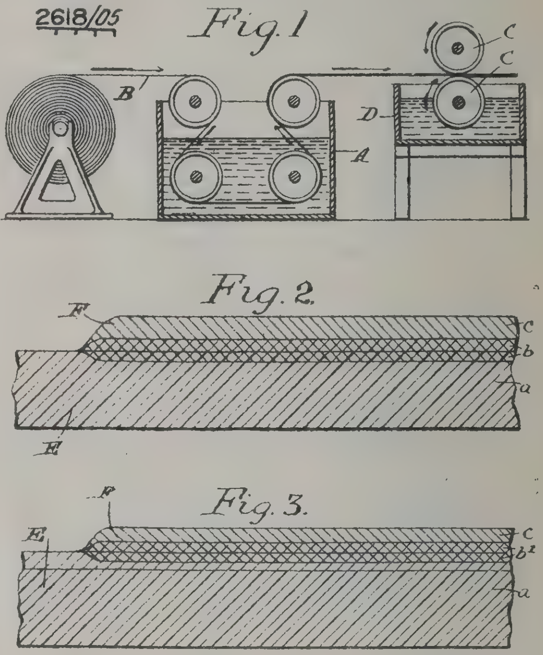
The foundation material is formed by passing paper, felt, cloth, burlap, &c., **B**, Fig. 1, through a reservoir **A** containing asphaltum, tars, pitches, or other hydrocarbons. Such material is then passed between heated rollers **C**, the lower one of which applies the colouring composition contained in a tank **D**.

The effect of heat and pressure is to cause the coloured facing **F**, Fig. 2, to interlock with the material **E** and so form an intermediate portion **b**; or, if the material has been coated instead or saturated with a hydrocarbon, the intermediate portion will be as shown at **b1**, Fig. 3.

To produce a more stable facing, the oils or fats may be first oxidized or polymerized by heating in the presence of oxidizing agents, or by heating with sulphur or chlorine.

As an example of the process, a mixture is first made by heating for six hours at 200° C., 4 lbs. of American linseed oil, 1 oz. of litharge, and 1 oz. of manganese borate. The carrier or flux is then obtained by heating $2\frac{1}{4}$ lbs. of the first mixture with 4 lbs. of kauri gum and 3 lbs. of Burgundy pitch. When this has reached 130° C., 4 lbs. of red iron oxide are added to form the facing composition. When this composition has reached 105°–110° C., it is applied to paper between rollers heated by steam to about 150° C., the paper having first been saturated with asphalt at 100° C.

2618/05



12 *typed pages,* 8 *claims;* 1 *fol. drg.,* 3 *figs.*

2619. 28 Feb. L. C. Rugen, factory superintendent, and H. Abraham, chemist, Bound Brook, Somerset, New Jersey, U.S.A.

Colouring the surface of bituminous roofing fabric.

Classes 41.7; 46.4; 79.3; 81.4.

Three parts of stearine pitch and two parts of linseed oil are melted and eight parts of yellow ochre stirred into the mess. This mixture is applied to the fabric, and the facing produced is, when in a semi-plastic condition, dusted with a powder consisting of ten parts of yellow ochre or other pigment and ninety parts of soapstone.

The inner coating gradually develops the colour of the outer, so that when the temporary outer coating wears away, a permanent inner coating of the required colour remains.

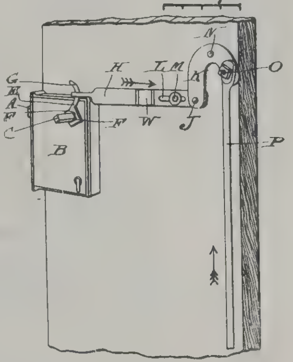
10 *typed pages*, 11 *claims*. *No drawing.*

2620. 28 Feb. A. MONNINGTON, Ferry House, Somerset, near Burnie, Tas., solicitor.

Foot latch for doors, &c.

Classes 77.1 ; 88.8.

FIG. 4. 2620/05



A lever latch, projecting through a door at both sides near the floor, may be depressed at one side (or lifted at the other) by foot action ; this lifts a rod **P**, Fig. 4, and the motion is transmitted by the bent lever **N** and horizontal rod **H** to a lever **C**, loosely fitting on the square gudgeon **C** (commonly used in mortise and other door locks), thereby withdrawing the catch and allowing the door to be opened by a person without using the hands.

7 *typed pages*, 3 *claims* ; 1 *fol. drg.*, 3 *figs.*

2621. 28 Feb. P. HEDGES, 48 Queen-street, Melbourne, Vic., patent attorney (*communicatee of* THE CALIFORNIA PRODUCTS COMPANY, 6 Harrison-street, New York, U.S.A. , *assignees of* G. W. HOOVEN, W. J. ENGLEWOOD, and S. T. H. K. ENDEMANN, *act. invs.*).

Cream of tartar from marc, crude calcium tartrates, &c.

Classes 08.1 ; 09.1.

Marc, or other crude material containing calcium tartrate, is dried at a gentle heat to prevent acetic acid fermentation ; the material is then boiled with a solution of oxalic acid (using about 36 lbs. to the ton). The calcium salts are precipitated as calcium oxalate and free tartaric acid is formed, the solution being decanted and evaporated, after the addition of sufficient potassium (in the form of potassium chloride) to convert the free tartaric acid into the acid potassium salt, *i.e.*, " cream of tartar." Traces of excess oxalic acid are separated by lime salts.

7 *typed pages*, 9 *claims*. *No drawing.*

2622. 28 Feb. *Prov. only.*

W. MADDER, 32 Cuba-street Extension, Wellington, N.Z., bricklayer.

" Non-refillable bottle and stopper."

Class 57.6.

2623. 28 Feb. *C.a.P.* 29 Nov.

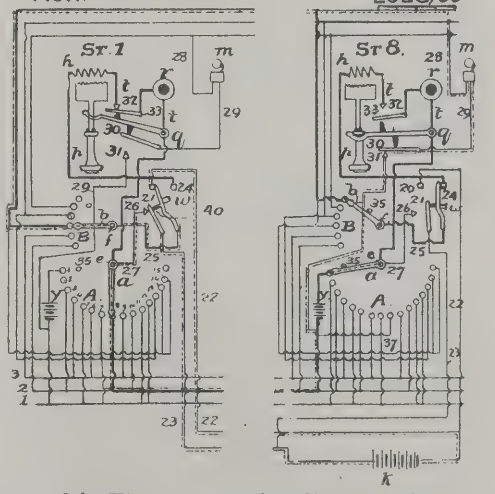
DIRECT LINE GENERAL TELEPHONE CO., 397 Bush-street, San Francisco, Cal., U.S.A. (*assignees of* A. K. ANDRIANO and H. HERBSTRITT, San Francisco, U.S.A.).

Telephones, &c.; metallic circuit inter-communication system.

Classes 04.3 ; 05.2 ; 05.6.

In inter-communicating systems with metallic circuits, consisting of multiple direct and return conductors, several extra circuits may be obtained by varying the combinations of the conductors, *e.g.*, with **n** pairs of wires $\frac{n^2-n}{2}$ circuits may be obtained. The varying combinations are made by means of direct and return line lever switches and stud contacts arranged in an arc of a circle.

FIG. 1. 2623/05

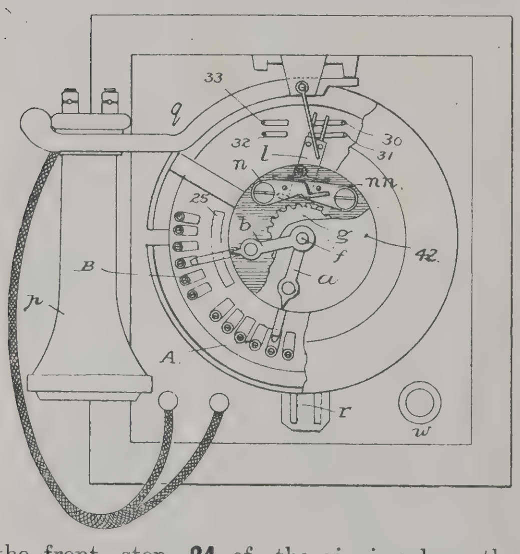


a and **b**, Fig. 1, are the direct and return line switches respectively ; a spiral spring round the post **e**, and a similar spring round the post **f**, Fig. 4, restore the levers to their original position when released ; **35** are stop pins; a ratchet wheel **g** on the post **e**, and a similar wheel **i** on the post **f**, with pivoted detents **n** and **n n**, lock the switches **a** and **b** against the recoil of the springs as they are moved away from their respective line contacts to make a switch.

A tripping arm is attached to the pivot of the telephone hook **q**, Fig. 4, and a rocking lever **l** is arranged between the arm **q** of the telephone hook and the detents, so that, when the receiver is hung up and the telephone hook moved downward, the detents **n** and **n n** will be moved away from the rim of the ratchet wheel and allow the switch arms **a** and **b** to return to their respective line contacts.

Fig. 1 illustrates an arrangement of the local circuit and transmitting and receiving instruments at every station; one side of the primary winding of the induction coil **h** is connected to the movable point **a** of the direct line switch, and its other side to the switching point **b** of the return line switch, by the connexion **t u**, in which **t** indicates the frame of the instrument. The wire **u** has for a terminal the front stop **24** of the ringing key, the movable stop **w** of which is connected by a conductor **25** to the switch point **b** at all times when the stop **w** of the ringing key is against the stop **24**. The battery **y** for the local circuit is placed on the direct line of the station outside the switch **A**, instead of being located between the induction coil and the switch; and the transmitter **r** is placed between the induction coil and the switch point **a**. The receiver **p** is connected in a closed circuit with the secondary of the induction coil **h**.

Fig. 4 2623/05



A lead **22** from one side of the ringing battery **k** is connected to the back-stop **20** of the ringing key, and a conductor **23** is carried from the other side of that battery to the stop **21** of the key. The movable stop **21** is situated in front of a third stop **26**, from which a wire **27** leads to the movable point **a** of the switch. Through that part a connexion with the ringing battery is completed to the particular direct line on which the movable point **a** of the switch may be set; and the bell of the station on that direct line will be rung when the movable stop **w** is pressed. The movable stop **21** is insulated from the stop **w** in front of it, as seen at **40**.

One side of the bell **m** is permanently connected to the individual return wire at the station, as shown at **28**, and the other side is similarly connected by a lead **29** to the direct-line conductor individual to the station. This connexion is made outside of the line-terminals **A** of the station, and also beyond or outside of the local battery **7** whenever the same is situated outside of the switch.

A circuit closer, composed of contact stops **30**–**31** placed in the connexion **29**, is held closed while the receiver is on the hook—the bell is cut out when the receiver is removed.

Prov. 6 *typed pages.*
Comp. 8 *letterpress pages,* 12 *claims;* 4 *fols. drgs.,* 6 *figs.*

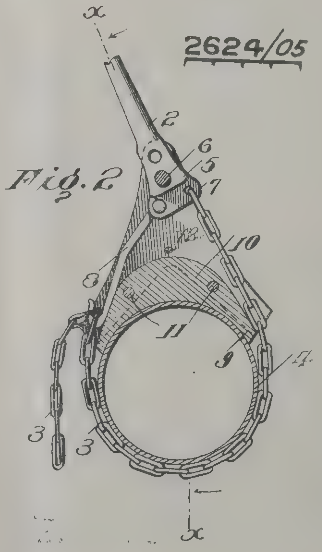
2624. 28 Feb. J. Roemer, Santa Maria, Santa Barbara, Cal., U.S.A.

Chain-grip pipe wrench; changeable jaws, &c.

Class 74.6.

2624/05

Fig. 2



To prevent the crushing of thin pipes the head **12** has a V-shaped notch (shown by a dotted line), in which a jaw **10** may be placed, having a concave gripping face to fit the pipe. A chain **3** is secured to the lug **7** on the lever **2**, and is adapted to pass round the pipe and fasten to the hook **8**. The handle **2** being pivoted to the head **12** at **6**, may swing either right or left hand at will.

5 *typed pages*, 3 *claims*; 1 *fol. drg.*, 4 *figs.*

2625. 28 Feb. E. Reynolds, 446 Ivanhoe-place, Milwaukee, Wis., U.S.A., engineer.

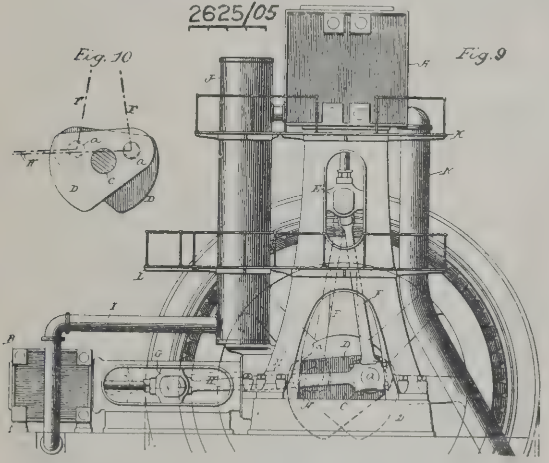
Balancing combined vertical and horizontal engines.

Class 62.2.

The horizontal high-pressure and vertical low-pressure cylinders of an engine work on one crank-pin, the axis of the low-pressure cylinder being nearer the crank-disc than the axis of the high-pressure cylinder. Simple cylinders and one or two more sets of engines may be used, each provided with counter-balances.

Two compound engines for an electric generator are shown in Fig. 9, one on each side of the armature shaft, which is supported in two bearings. The shaft may have a clutch between the two crank discs so that each engine may operate separately by disconnexion of the other. The cranks and balance weights are disposed at 135 degrees to each other, as shown in Fig. 10. The receiver **J** acts as a steam pipe and lessens loss from radiation. The cylinders may be arranged to work triple or quadruple expansion if desired.

2625/05



An arrangement for three sets of engines is also shown. The crank shaft is supported by four bearings, and has two small flywheels attached. The crank-pins are disposed preferably at 120 degrees to each other. The centre pin may be rigidly connected to one disc, and works in a loose box in the other disc; this allows of slight deflexion of the two-shaft sections. These engines are reversible, and may be fitted with reversing gear.

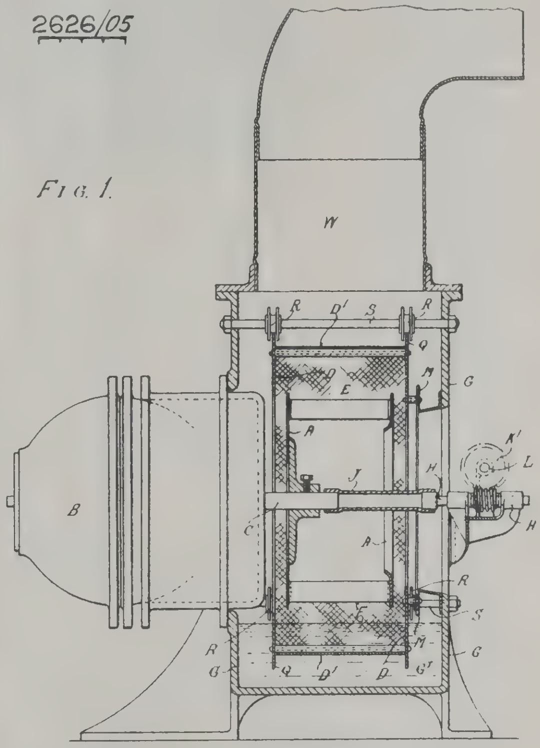
15 *typed pages*, 8 *claims*; 6 *fols. drgs.*, 11 *figs.*

2626. 28 Feb. S. C. Davidson, Sirocco Engineering Works, Belfast, Ireland, merchant.

Circulating, filtering, and cooling air.

Classes 29.3; 69.6; 90.9.

A fan spinner **A** rotates within a slowly-revolving cage, covered by a cylindrical band **D1** of porous material; the cage rims **D** are each carried by three grooved idle wheels **R**; the outer disc also carries a toothed ring **M**, driven by worm gearing to the fan shaft by a flexible rubber pipe coupling **J**.



The porous band **D1** is moistened, as it slowly revolves, by water contained in the bottom of the outer casing **G**. The water is kept at a constant level by an external bird fountain shown in another figure.

The air forced by the fan through the porous material being cooled and filtered, flows away by the pipe **W**.

10 *typed pages*, 11 *claims*; 4 *fols. drgs.*, 4 *figs.*

2627. 28 Feb. *Prov. only.*

H. Laman, 59 Ebley-street, Waverley, N.S.W., merchant.

"An improved hand-clipper."

Class 37.6.

2628. 1 Mar. R. Bines, 1410, 204 Dearborn-street, Chicago, Ill., U.S.A., gentleman (*assignee of* D. H. Wilson, *act. inv.*, Chicago, Ill., U.S.A., electrician).

Long-distance telephony; doubled-cored transformers.

Classes 02.6; 05.7.

An induction coil, Fig 2, with two cores, one **A** magnetically continuous with opposed pole pieces **A1**, **A1**, the other **B** located between said opposed pieces and supported thereby so as to form part of the magnetic circuit, and yet magnetically insulated by packings **B1** therefrom with primary coils **A2**, **B2**, and secondary coils **A3**, **B3**, on both of the cores, is employed.

Fig. 2. 2628/05

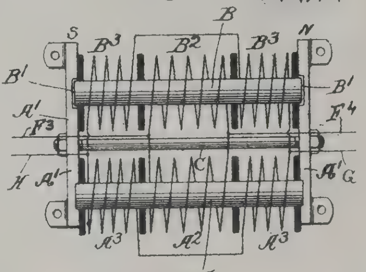


Fig. 3.

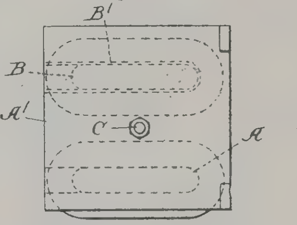
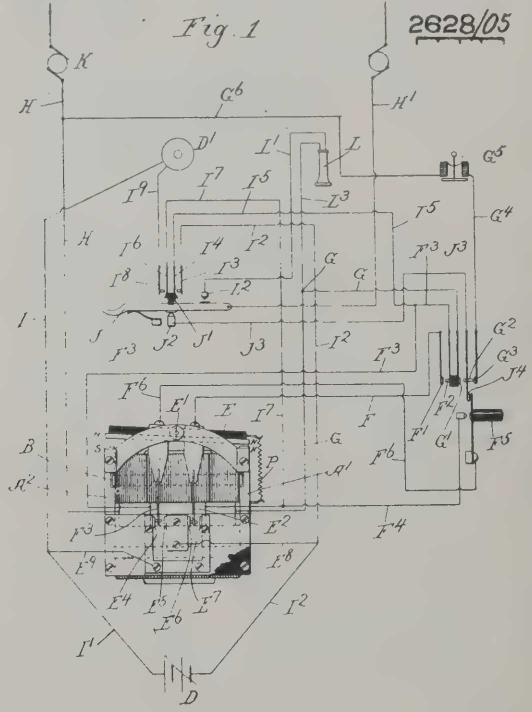


Fig 1 2628/05



The speech is transmitted over long distances as follows:—When the main line between the stations is supplied with a current, as by means of generators (which current should be a straight or commutated current), this current is passing through the secondary coils when the device is in operation, and the characteristics of the talking current in the primary coil are impressed upon this continuously-acting straight current, and these characteristics are transmitted by this straight current to the distant station.

The straight current is of sufficient voltage for the required distance.

Fig. 1 shows the scheme of connexions—**E** being a polarized swinging interrupter, and **F5** a switch for signalling.

10 *typed pages*, 9 *claims*; 2 *fols. drgs.*, 3 *figs.*

2629. 1 Mar. R. Bines, 1410, 204 Dearborn-street, Chicago, Ill., U.S.A., gentleman (*assignee of* D. H. Wilson, *act. inv.*, Chicago, Ill., U.S.A, electrician).

Sectional transformers for long-distance telephony.

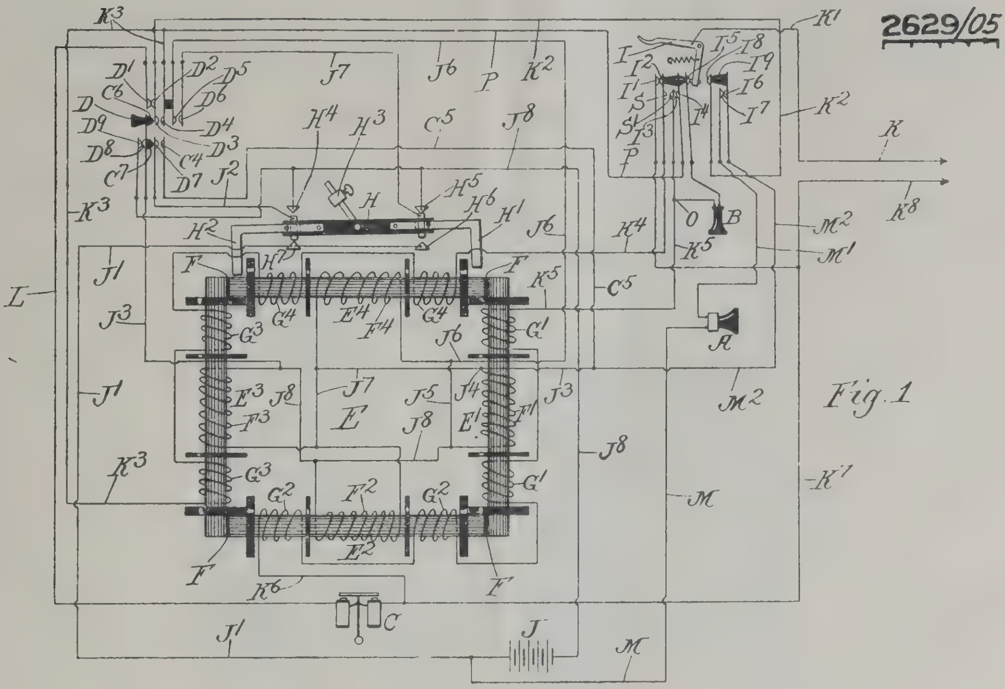
Classes 02.6; 05.7.

A telephone system comprising a transmitter **A**, a receiver **B**, and an induction coil **E**, having a core divided up into four sections **E1** to **E4**, each magnetically insulated from the other at **F**; each section is provided with primary coils **F1** to **F4** and secondary coils **G1** to **G4**; by means of the signalling switch **D** the primary windings of all the sections are connected in multiple and the vibrating polarized armature **H** causes an intermittent induced current in the line.

When talking, the ringing switch is as shown in the diagram, and during the use of the apparatus the secondary coils are connected in sets of two in series, the sets being connected in multiple, thus making it possible to talk through lines which have adverse conditions of induction, &c.

5 *typed pages*, 6 *claims*; 1 *fol. drg.*, 3 *figs.*

(*For drawing see next page.*)

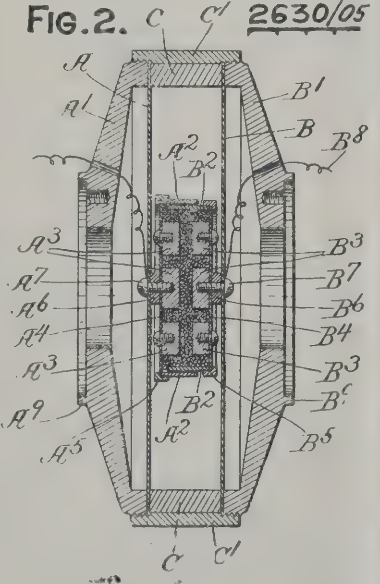


2630. 1 Mar. R. Bines, 1410, 204 Dearborn-street, Chicago, Ill., U.S.A., gentleman (*assignee of* D. H. Wilson, *act. inv.*, Chicago, Ill., U.S.A., electrician).

Telephone transmitter; double diaphragm with interposed carbon.

Class 05.7.

FIG. 2. 2630/05



Two diaphragms **A**, **B**, are held between flanges in a screwed external box; two telescoping cases **A2**, **B2**, are attached between them by central screws **A6**, **A7**, and contain conducting material such as granulated carbon; each case may have one or more internal buttons **A3**, **B3**, of metal or carbon; the bottoms **A4**, **B4**, of the cases act as auxiliary diaphragms.

The mouth-piece is forked, a branch curving round to each side **A9**, **B9**, of the extreme box, so that the sound waves act on both the diaphragms.

5 *typed pages*, 6 *claims*; 1 *fol. drg.*, 3 *figs.*

2631. *Prov only.*

D. S. Walker, Westbury-street, St. Kilda, Vic., manufacturer's agent, and E. Wallis, Charlotte-place, St. Kilda, Vic., agent.

"Improvements in devices for delivering regulated quantities of liquid."

Class 56.5.

2632. 1 Mar. *C.a.P.* 9 Nov.

United Shoe Machinery Co., 205 Lincoln-street, Boston, Mass., U.S.A. (*assignees of* L. A. Casgrain, *act. inv.*, Winchester, Middlesex, Mass., U.S.A.).

Damping machine for boot soles.

Class 44.5.

2632/05

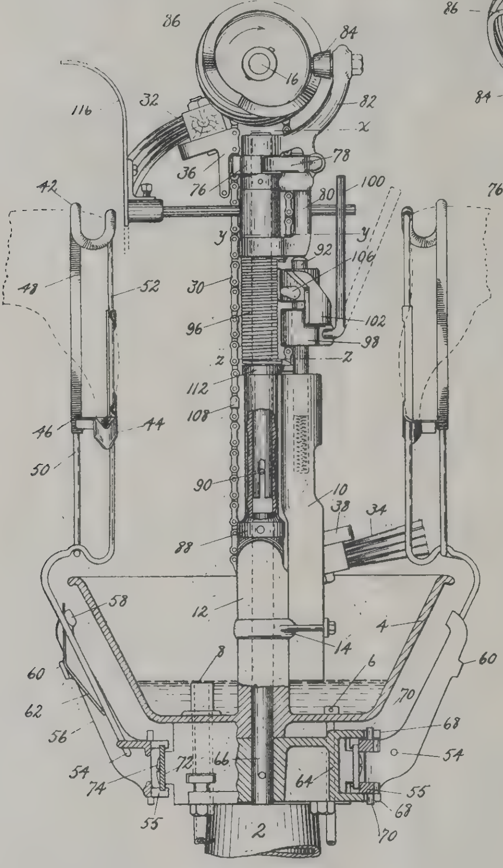


Fig. 2.

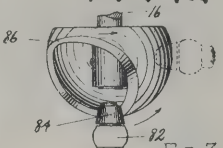


Fig. 3.

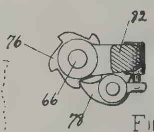


Fig. 4.

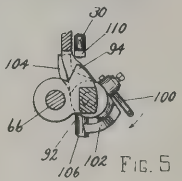


Fig. 5.

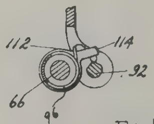


Fig. 6.

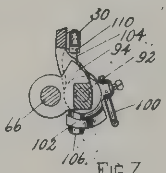


Fig. 7.

A water tank **4**, having an overflow pipe **8**, is surrounded by a carrier chain **55**, which travels on a flat bar track **72** and is driven by sprocket wheel **64** on a vertical shaft **66**, fed by a pawl **78** on rocking frame **80**, Fig. 2, which engages the cam **86** at the top of the machine.

Each link of the chain **55** has a bracket **56**, to which an adjustable shoe support **50** is pivoted at **54** and is held up by a spring **62**.

The boot soles are damped by two brushes **32** and **34** on brackets **36** and **38**, fixed to vertical carrier chains **30** and **31** driven from below.

The rocking frame **80**, Fig. 2, is locked at the end of its feed movement by a pin **92** forced up by a spring, attached to the pin is a block **98** having a disengaging cam **102** and handle **100**, Figs. 5 to 7, which, being moved to the left, brings an extension on the block **98** into engagement with a tripper on the continuously-moving chain **30**, thereby depressing the locking pin **92** and permitting the torsion spring **96**, Fig. 2, to swing the arm **82** into operative position with the cam **86**.

The block **98** is automatically disengaged from the tripper on the chain **30** by the disengaging cam **102**, Figs. 2 to 7, which, in its downward movement, engages with and is turned by a stud **106**.

The intermittent feed movements of the shoe carriers are arranged to take place when the damping brushes are out of engagement with the shoe soles.

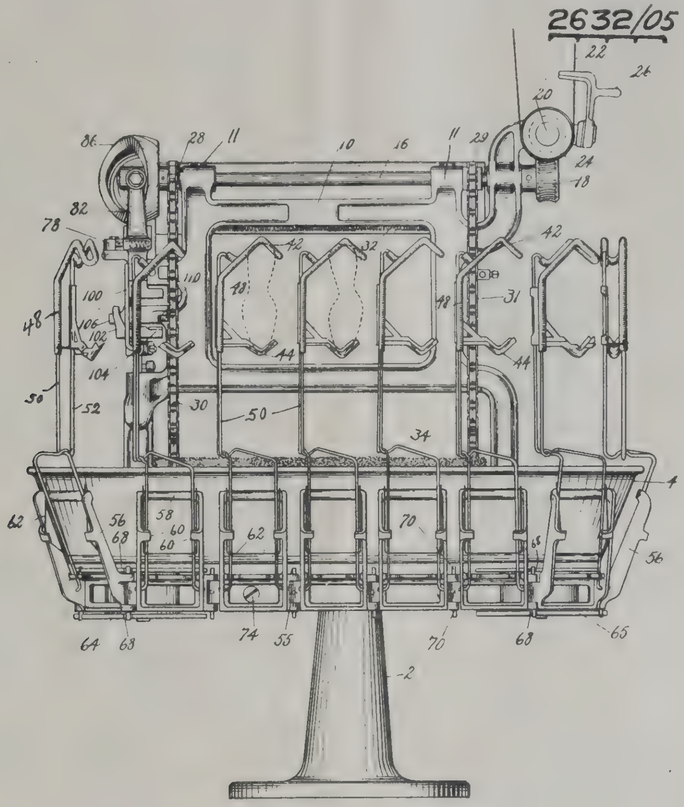


FIG 1.

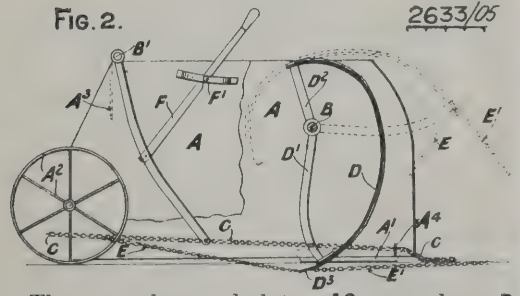
Prov. 10 *typed pages.*
Comp. 15 *typed pages,* 19 *claims ;* 2 *fols. drgs.,* 7 *figs.*

2633. 1 Mar. *C.a.P.* 29 Nov.
P. Waite, Adelaide, S.A., station-owner.

Subaqueous drag scoop; hinged cutting door.

Class 84.3.

FIG. 2.



The scoop has end-plates **A3**, cross-bars **B**, **B1**, and side-plates **A**, but no bottom; it is mounted on wheels or runners, and has a curved door or scraper **D** (pivoted at **B** on the framework) with a cutting edge **D3**.

In operation the scoop enters the dam backwards, with the door **D** raised (as shown in dotted lines) by a supplementary chain **E1**.

A lever **F** is connected to the draught chains **C** so that they may be lifted and shortened relatively to the supplementary chains, causing the cutting edge **D3** to lie below the scoop and collect the mud; when the scoop is full, the release of **F** raises the edge **D**, so that it will not scrape the bank.

Prov. 3 *typed pages.*
Comp. 5 *typed pages ;* 3 *claims;* 1 *fol. drg.,* 3 *figs.*

2634. 1 Mar. A. O. Sachse, 454 Collins-street, Melbourne, Vic., patent attorney (*communicatee of* B. H. Sills, *act. inv.*, Belleville, Ontario, Canada, inventor).

Spring support for bicycle handle-bars and saddle-posts.

Class 94.3.

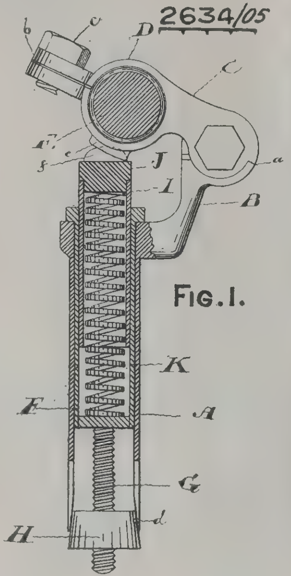


Fig. 1.

The handle-bar **E** is allowed vertical play by a hinged bracket **D**, clamped to the bar at **b**, and pivoted to a bracket **B** on the tube or stem **A**, which fits the usual socket; inside the stem **A** a coil spring is fitted in a case **F**, containing a coil spring with a sliding cover **I**, on which the handle-bar rests; the tube **A** is split at its lower end, and may be expanded and fixed by the cone nut **H**.

5 *typed pages*, 2 *claims*; 1 *fol. drg.*, 2 *figs.*

2635. 1 Mar. A. Rosenberg, 259 High Holborn, London, Eng., engineer.

Acetylene, &c.; packed canister; attachments for hydrating.

Classes 21.81; 21.87; 57.4.

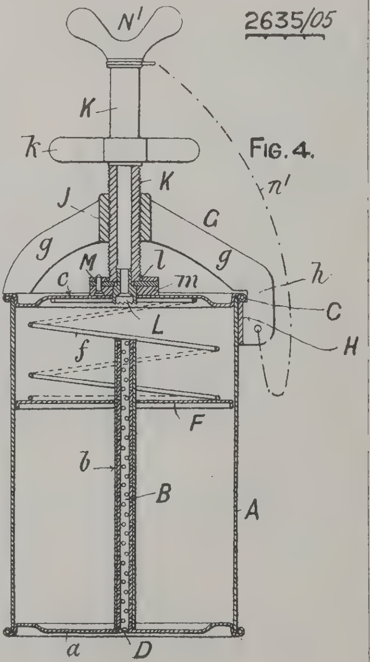


Fig. 4.

Calcium carbide is packed in sealed canisters **A** that are only partly filled, but have a spring-supported diaphragm **F** to prevent rattling and to allow expansion after hydrating; a central tube, supporting a wick internally or externally, is fixed axially to the bottom, opposite an external mark.

The head **G** clips on the canister by claws **g** which fit under the rim or bead **C**; on screwing down the pipe **K**, the serrated nozzle **L** perforates the lid, and the packing ring **m** makes a gas-tight joint; the cap nut **N1** is unscrewed, and a burner or flexible tube attached; the bottom is perforated at **D** and the whole immersed in water, which soaks in slowly by the wick; to stop the evolution of gas the can is removed and the bottom plugged.

In a modification, the claw head **G** is replaced by a dish-cover casting, which forms a lid to a water vessel completely surrounding the canister.

11 *MS. pages*, 6 *claims*; 3 *fols. drgs.*, 5 *figs.*

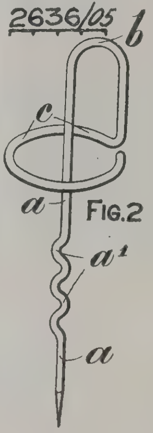


Fig. 2

2636. 1 Mar. S. Webb, 2 Castle-terrace, Tower-street, Winchester, Eng., butcher.

Butchers' label skewer.

Classes 35.1; 54.3; 58.4.

A wire stem has a sharpened and twisted point, **a**, **a1**, the upper part is bent over at **b** and looped round at **c**, forming a wire flange that holds a label or bill against the meat.

4 *typed pages*, 7 *claims*; 1 *fol. drg.*, 3 *figs.*

2637. 1 Mar. *Prov. only.*

F. J. Odling, *act. inv.*, 2 Prince's-walk, Princes's-bridge, Melbourne, Vic., mining engineer, and W. Jamieson, *assignee*, Broken Hill Chambers, 31 Queen-street, Melbourne, Vic., gentleman.

"An improved ore concentrator."

Class 11.4.

2638. 1 Mar. *Prov. only.*

A. M. Nicholas, Bank-place, Collins-street, Melbourne, Vic., mining engineer.

"Improvements in rotary filtering apparatus for the separation of liquids or solutions from tailings, slimes, and the like."

Classes 14.7; 28.2.

2639. 1 Mar. *Prov. only.*

J. B. Ford and E. Hughes, Ida-street, Waratah, N.S.W., manufacturers.

"A new and improved disinfectant."

Class 87.1.

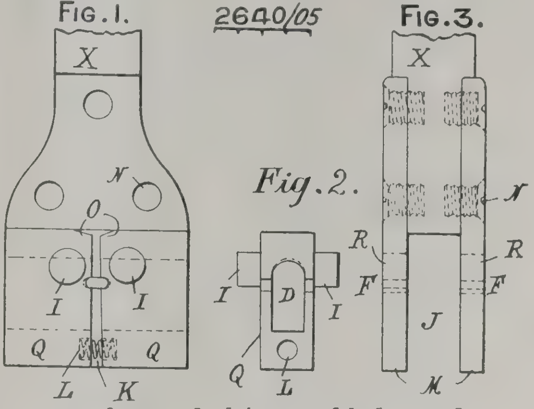
2640. 1 Mar. D. Graham, Pine-street, North Ipswich, Qld., engine-fitter.

Cutter or tool holders for slotting machines.

Class 72.5.

One tool holder, Figs. 1 to 3, has swivel blocks **Q** pivoted on pins **I**, journalled in holes **R** in the side plates, pressed apart by a spring **K** on the down or cutting stroke, but which allow the cutters to yield on the return stroke. The cutters are fixed in slots **D** in the blocks by cotters.

Another holder has a pair of cutters fixed in opposite ends of a transverse socket for adjusting the width of cut; and a third pattern has a forked double-ended cutter with locking cotters.

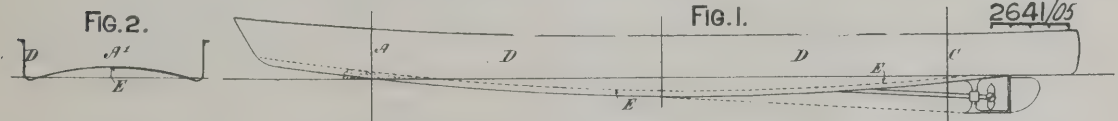


5 *typed pages*, 8 *claims*; 1 *fol. drg.*, 7 *figs.*

2641. 2 Mar. N. A. Joubert, Joubert-street, Hunter's Hill, N.S.W., steam-ship owner (*assignee of* H. E. Ross, *act. inv.*, Equitable Buildings, George-street, Sydney, N.S.W., consulting engineer and architect).

Trough-bottomed ships for surface propulsion.

Classes 91.2; 91.6; 92.6.



A vessel, approximately a parallelogram in plan, has vertical sides **D** and a longitudinally convex bottom **E** which is transversely concave, forming an inverted trough that may be forked at the propellor keel; when propelled forward the vessel will rise and skim over the surface of the water, and air bubbles, entrapped by the concave bow, will be forced beneath the hull, forming a cushion of foam which reduces skin friction.

Modifications, having sides sloping either inwards or outwards, are shown in other figures.

5 *typed pages*, 1 *claim*; 2 *fols. drgs.*, 5 *figs.*

2642. 2 Mar. *Prov. only.*

H. Charles, Simpson-street, Auburn, N.S.W., engineer.

"Improvements relating to taps or valves."

Class 22.4.

2643. 2 Mar. *Prov. only.*

A. Gruitsch, 103 Gore-street, Fitzroy, Vic., mechanic.

"Improvements in free-wheel mechanism applicable to cycles."

Class 94.7.

2644. 2 Mar. *Prov. only.*

J. S. Bagshaw & Sons Ltd., Elizabeth-street, Adelaide, S.A., engineers (*assignees of* J. A. Bagshaw, *act. inv.*, Elizabeth-street, Adelaide, S.A., managing director).

"An improved grain separator and grader."

Class 32.6.

2645. 2 Mar. *C.a.P.* 1 Dec.

J. S. Bagshaw & Sons Ltd., Elizabeth-street, Adelaide, S.A., engineers (*assignees of*

J. A. Bagshaw, *act. inv.*, Elizabeth-street, Adelaide, S.A., managing director).

Grain winnower and sieves.

Classes 11.3; 32.6.

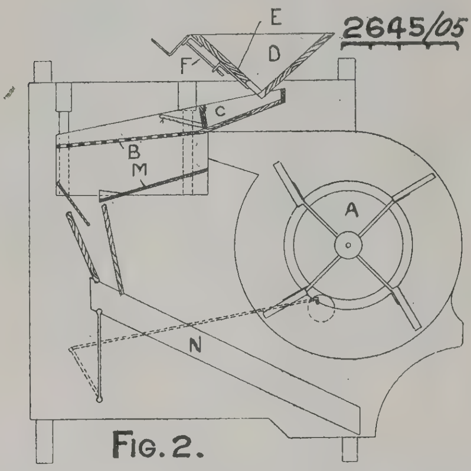


Fig. 2.

The wind is delivered from the top of the fan **A**, and passes out from its guide boards directly beneath the upper sieve **B** on the shaking hopper **C**, which has a plain board **M** at the bottom.

The grain is fed from the fixed hopper **D**, and regulated by the sliding door **F**; the screen **B** separates out the oats and white heads, the whole of the grain, with the drake and rubbish, passing through the screen on to the plain board **M** whence it falls through on a regulating self-clearing screen **N**, which separates the whole grain for bagging and allows the broken grain and rubbish to pass through.

A bagging elevator may be attached.

Prov. 2 *typed pages.*

Comp. 4 *typed pages,* 6 *claims;* 1 *fol. drg.,* 4 *figs.*

2646. 2 Mar. *C.a.P.* 1 Dec.

J. L. Campbell, Roebuck-street, West Adelaide, S.A., machinist.

Bag holder for filling on sack barrows.

Classes 57.1; 93.1.

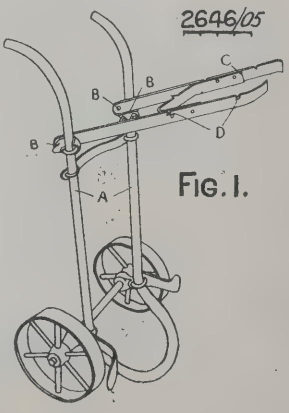


Fig. I.

For convenience of filling and easy handling of sacks while on a handtruck, a bar-iron frame **C** is attached by pivots **B** to blocks clamped to the truck near the handles. The holder or frame has outwardly-projecting jagged spikes **D** by which the bag is temporarily attached and held open.

Prov. 3 *typed pages.*

Comp. 3 *typed pages,* 4 *claims;* 1 *fol. drg.,* 2 *figs.*

2647. 2 Mar. *C.a.P.* 1 Dec.

J. Hylard, 24 Clyde-street, St. Kilda, Vic., gentleman, and F. G. Hughes, National Mutual Buildings, Collins and Queen streets, Melbourne, Vic., legal manager.

Compartment bandolier for magazine clips.

Class 89.3.

Fig. 2.

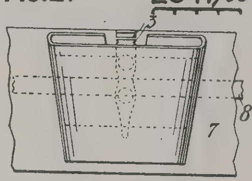
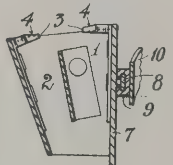


Fig. 3.



The pockets are divided into two compartments **1**, **2**, one behind the other, with separate flexibly attached hooks **3** for holding each clip of cartridges in position. A mushroom guide **8** at the back works in a slot **9** in a shoulder strap **10**.

Modifications are described.

Prov. 3 *typed pages.*

Comp. 5 *typed pages,* 7 *claims;* 1 *fol. drg.,* 7 *figs.*

2648. 2 Mar. *Prov. only.*

C. B. Trefle, Temora, N.S.W., farmer.

"An improved draught attachment for raising and lowering the feet of ploughs."

Class 30.3.

2649. 2 Mar. *Prov. only.*

M. J. Paul, 82 William-street, Melbourne, Vic., engineer.

"Means for unloading coals and other suitable materials from ships and other vessels, and depositing same into railway trucks, barges, or like receptacles."

Class 91.8.

2650. 2 Mar. *C.a.P.* 28 July.

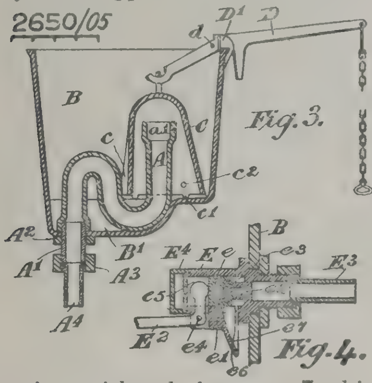
W. Monteath, of Monteath & Sons, Market and Cecil streets, South Melbourne, Vic., ironfounder.

Flush cisterns; corrugated siphon bell; splash apron.

Classes 74.8; 86.2.

The siphon trap **A**, Fig **3**, is detachable from the cistern **B**, and is fixed in the depression **B1** by the nipple **A1** and nut **A2**; the bell **C** is folded at **c** to clear the siphon bend and has a small air-hole **c2** at bottom to break siphonage.

2650/05



The float-controlled valve **E** has a port **e6** through its casing, with a dash apron **e7** which directs the stream against the side wall of cistern.

Prov. 3 *typed pages.*
Comp. 4 *typed pages,* 4 *claims;* 1 *fol. drg.,* 4 *figs.*

2651. 2 Mar. *C.a.P.* 2 Dec.

M. Christianson, 15 Egan-street, West Richmond, Vic., engineer.

Ore-feeder; intermittently-rotated ribbed drum.

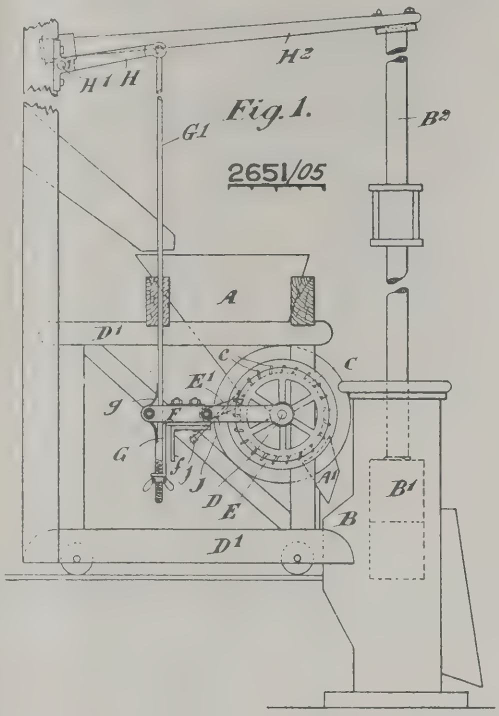
Class 10.1.

The ore is fed from the hopper **A** by the intermittently-rotating ribbed drum **C**; the rocking arm **F** is lifted by the rod **C1** from the lever **H2** and the stamp **B2**; a friction pawl **E1** engages a grooved wheel **E** on the drum axle, and a flap **J** hinged to the frame acts as a detent against return of the drum.

The rod **C1** is linked to the arm **F** by the catch **C**, adjusted by the wing nut at the upper limit of the stroke, the bracket **f** releases the catch; unless the stamper falls sufficiently to engage the catch **C**, no ore is fed.

Prov. 3 *typed pages.*
Comp. 4 *typed pages,* 2 *claims;* 1 *fol. drg.,* 2 *figs.*

(For drawing see next column.)



2652. 2 Mar. S. Whitburn, Mercer, Waikato, N.Z., engineer.

Table cricket with puppet traveller.

Class 53.7.

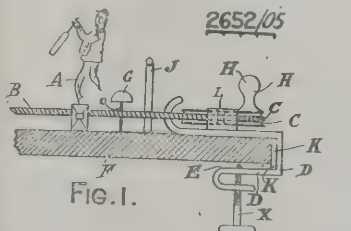


Fig. 1.

Miniature cricket is played on a table by players, who use miniature bats and apparatus, and perform the bowling, hitting, and fielding by hand as usual.

To score runs, the table is fitted with an endless band **B** moving over pulleys **C** clamped to the table; a puppet **A** is attached to the cord and has to be traversed across the pitch by the batting player turning the handle **H**; when the puppet arrives in the crease, the bell **G** makes a signal.

5 *typed pages,* 5 *claims;* 1 *fol. drg.,* 4 *figs.*

2653. 2 Mar. *C.a.P.* 10 Oct.

W. Dimmick, 243 High-street, Northcote, Vic., boot manufacturer.

Back seam for laced boots.

Class 44.1.

2653/05

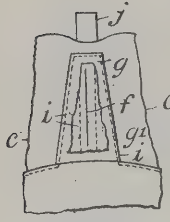
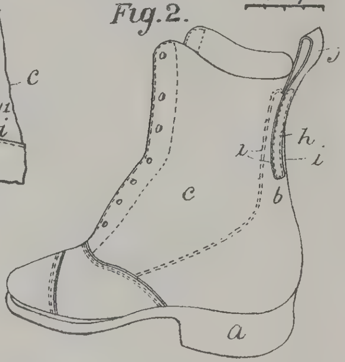


Fig. 3.

Fig. 2.



To fit the boot to the contour of the foot the back part of the upper has a lenticular slot cut vertically, the edges of which are drawn together, stitched, and strengthened by a cover strap or loop.

Prov. *2 typed pages.*

Comp. *4 typed pages, 4 claims; 1 fol. drg., 3 figs.*

2654. 3 Mar. *Prov. only.*

E. R. Kane, 21 Patterson-street, Abbotsford, Melbourne, Vic., ironworker.

"Improved flower-pot holder or bracket."

Class 31.4.

2655. 3 Mar. *Prov. only.*

W. E. S. Mackay, *act. inv.*, 286 Toorak-road, South Yarra, Vic., engineer; G. E. Howard, *assignee*, 54 Argo-street, South Yarra, Vic., grocer; and J. A. Turner, *assignee*, 163 Mandurah-road, Fremantle, W.A., master baker.

"An improved apparatus for saving the fine gold in tailings being treated in ripple tables, sluices, or the like."

Classes 13.2; 13.9.

2656. 3 Mar. *C.a.P.* 3 Nov.

P. L. Weston, The University of Sydney, Darlington, N.S.W., electrical engineer.

Cutting involute bevel teeth by conical milling tools.

Classes 60.2; 72.3.

The conical blank **A** is chucked on a mandrel, and set by the dividing wheel **B5**; the faces of the teeth (which may be roughed out or cast to approximate shape) are finished to exact conical involutes by a conical milling cutter **E** mounted on carriage **D**, the frame **C** of which is guided by a spherical joint **C2** at the apex of the generating cone, and also by a pair **G**, **H**, of rolling sectors of cones, connecting by steel wrapping bands, having sufficient play for the face of a single tooth; the resultant motion giving the desired involute surface to the tooth.

2656/05

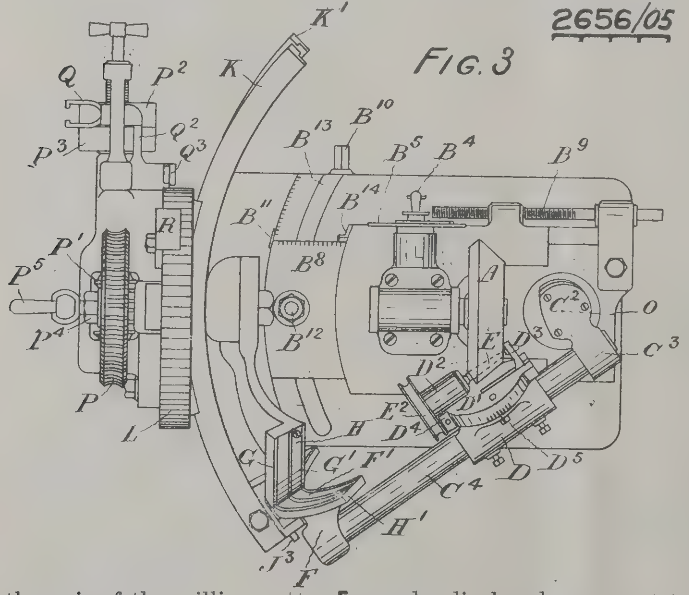


FIG. 3

One rolling cone **G** has its axis concentric with the blank **A**, and is driven by a worm **P** and belt pulleys **P2**, **P3**; a cam **R** at the end of the range of cutting, meets a lever **Q3** which shifts the belt fork **Q**.

For cutting hyperbolical gear, the axis of the milling cutter **E** may be displaced, so as not to meet the apex **C** of the blank.

Prov. *4 typed pages; 1 fol. drg.*

Comp. *8 typed pages, 4 claims; 3 fols. drgs., 7 figs.*

2657. 3 Mar. *Prov. only.*

J. Liddell and A. R. Carter, Wellington, N.S.W., gold miners.

"Liddell and Carter's new alluvial gold saving and concentrating machine."

Class 12.1.

2658. 3 Mar. *Prov. only.*

A. G. Baker, Dunedin, N.Z., engineer.

"Improved indicator attachment for screw-cutting lathes."

Class 72.3.

2659. 3 Mar. *Prov. only.*

D. Robertson, Wellington, N.Z., civil servant.

"Improved machine for postmarking letters and cancelling stamps thereon."

Class 54.3.

2660. 3 Mar. *Prov. only.*

T. W. Spence, *act. inv.*, 77 St. Andrew-street, Dunedin, N Z., mariner, and B. I. Shaw, *assignee*, King-street, Dunedin, N.Z., tailor.

"Improvements in garment hangers."

Class 43.1.

2661. 3 Mar. R. N. Adams, publisher, and A. R. Hardy, accountant, Dunedin, N.Z.

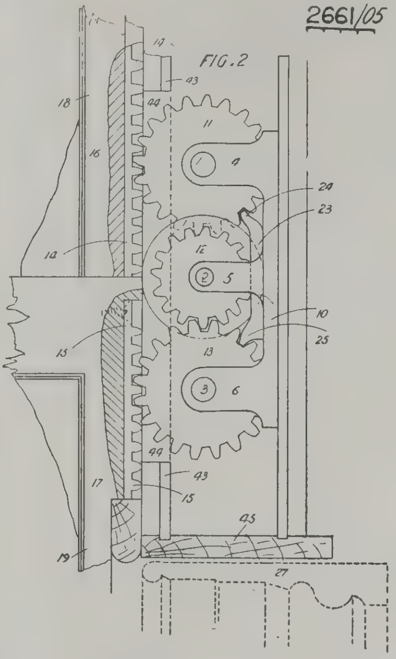
Sash racks and winch gear; sliding pinion, clutches, &c.

Classes 77.1; 78.7.

Each sash has a lateral rack **15** and **16** engaging with spur wheels **11** and **13** on the frame; the wheels are operated by a long pinion **12** which may slide laterally to engage both or either of the racks; a central flange on the pinion compels at least one wheel to be in gear, and also moves a transverse slide **23**, which carries detents **24** and **25**, spaced wider than the wheels **11** and **13**, so that when only one wheel is in gear the opposite detent slides into the teeth of the free wheel and locks that sash in place.

2661/05

FIG. 2



The external handle for the central pinion is coupled by a thumb-screw; when removed, the screw allows a spring feather in a slot on the axis to rise and lock the whole gear.

6 typed pages, 3 claims; 3 fols. drgs., 4 figs.

2662. 3 Mar. *Comp. lapsed.*

W. J. Rawling, Pulteney-street, Adelaide, S.A., tin-ware manufacturer.

"An improved combined incubator and foster mother."

Class 38.3.

2663. 3 Mar. L. Brennan, *C.B.*, Woodlands, Gillingham, Kent, Eng., engineer.

Gyroscopic stability governor for marine, aerial, and road vehicles.

Classes 61.2; 90.5; 91.6; 95.9.

Stability is imparted to unstable bodies by means of gyrostats, by accelerating the precession caused by the disturbance of equilibrium; for use in cycles, two-wheeled cars, and mono-rail stock, submarines, aerial vessels, &c.

2663/05

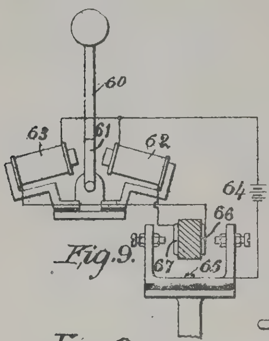
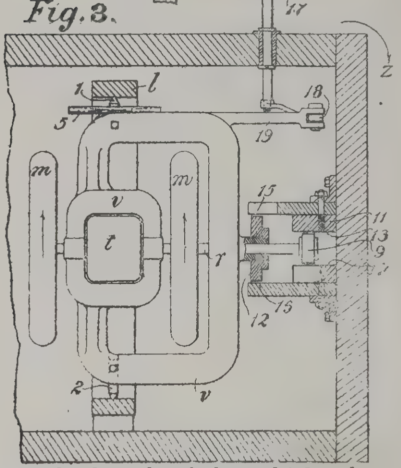


Fig. 9.

Fig. 3.



In the modifications in Fig. 3, two similar pairs of gyrostats **m** (one pair only being shown) rotate in opposite directions, each pair being mounted in a single framework **v** on horizontal pivots **1**, **2** in the line of motion of the vehicle; the gyrostat frames are geared together to the other by wheels **5** so that equal movements of precession occur in opposite directions when the frame of either gyrostat is moved; one of the gyrostat axles **r** (that shown in Fig. 3) is extended and carries a roller **9** for automatically accelerating the precession when the equilibrium is disturbed; the roller is loosely mounted between segmental guides or cams **13**, **14**, which are partially cut away and so adjusted that when the vehicle is in equilibrium the roller does not press on either of the guides; the frame **v** also carries a loose roller **12** which travels between other guides **15** and **16**.

When the equilibrium of the unstable body is disturbed the roller **9** presses on either the top or bottom guide, depending on the direction of the disturbance; the friction between the roller and guide **13** or **14** accelerates the precession and the end of the spindle and roller presses the unstable body back to the vertical position.

As soon as the body passes the vertical position its weight tends to pull it further over in the opposite direction and then the roller **12** on the frame causes a depression in the opposite direction; in this case there is no acceleration of the precession until the roller **9** gets back to its position of equilibrium, so that oscillations are thereby prevented.

The modification in Fig. 4 has the pairs of gyrostats at one or both ends of the vehicle, the gyrostat axles being normally horizontal and transverse to the direction of motion; they have gymbal frames, the inner frames being integral parts of electromotors **u** and **28**, and are joined by the universal link **49**; the outer frames of the gymbals have verticle pivots that are geared by bevel sectors, **21** to **25**, and the shaft **23**.

2663/05

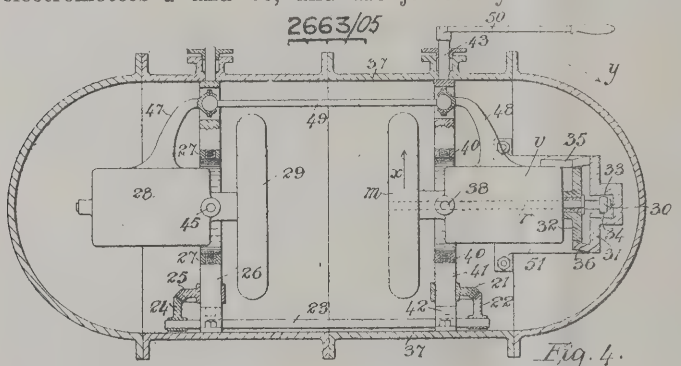


Fig. 4.

The spindle **r** of the actuating gyrostat **m** carries a roller **30** between guides **33** and **34**; whilst the field magnet frame **v** has a roller **32** between guides **35** and **36**, which operate similarly to the parts of Fig. 3.

Fig. 9 shows a device in which an inverted pendulum **60** swings on and above the coupling shaft of a pair of gyrostats, the secondary frame of which carries insulated contacts **66** and **67** that swing between an insulated fork **65** on the carriage, and energize one or other of the magnets **62** and **63**, so as to accelerate the precession in the desired manner.

A hand-wheel **17**, Fig. 3, or lever **50**, Fig. 4, may be used in emergencies.

17 *typed pages*, 11 *claims*; 7 *fols. drgs.*, 9 *figs.*

2664. 3 Mar. A. E. Cook and S. E. Kurtz, Odebolt, Sac, Iowa, U.S.A.

Classes 30.7; 31.1; 31.2; 60.2; 62.7; 95.5; 95.7; 95.9; 97.2.

Automobile gang cultivator, &c.

Four sets of gang-disc ploughs **35**, **62** are mounted on axles in bogie frames **31**, which are steerable by chains **43** adjusted by worm gears **49**; each bogie is pivoted under secondary frames

15 and **16**, that are connected by a horizontal upper frame **15a**; the upper frame carries a pair of gasoline motors **82**, mounted on a carriage or engine bed **20** that may slide on **15a** and be adjusted by a screw shaft **22**, to distribute the load.

The engine shaft has a disconnecting clutch, so that one or both engines may be used, and carries a three-stepped pulley; beneath is a longitudinal counter shaft **8** carrying a larger three-stepped drum; the smallest upper step may drive the largest lower step by frictional contact, or either pair of the other steps may be coupled in reverse direction by a heavy external belt; the speed-gear may slide along the counter-shaft to follow the adjustment of engine on its bed; the counter shaft **98**, Fig. 8, is mounted in compound eccentric sleeves **91**, **92** to enable the shaft distance for the several stepped pulleys to be adjusted; the sleeves **91**, **92** are moved by chains **94**, **95** from a lay-shaft **97** alongside.

Fig 1

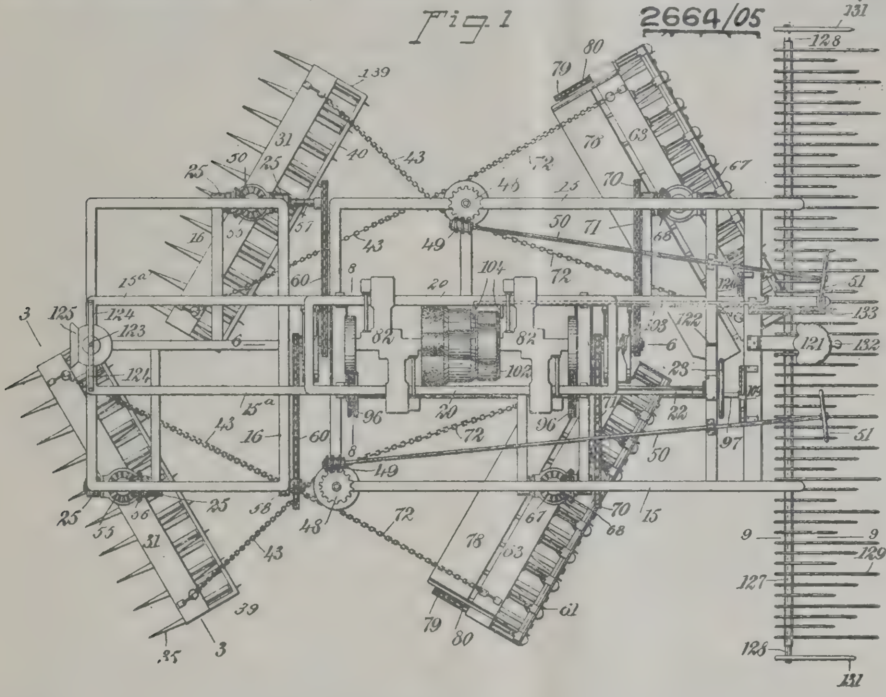
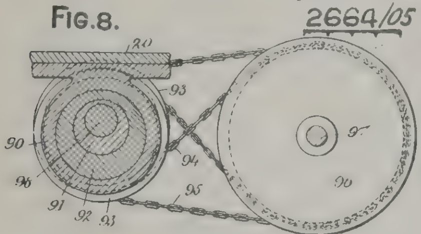


FIG.8.

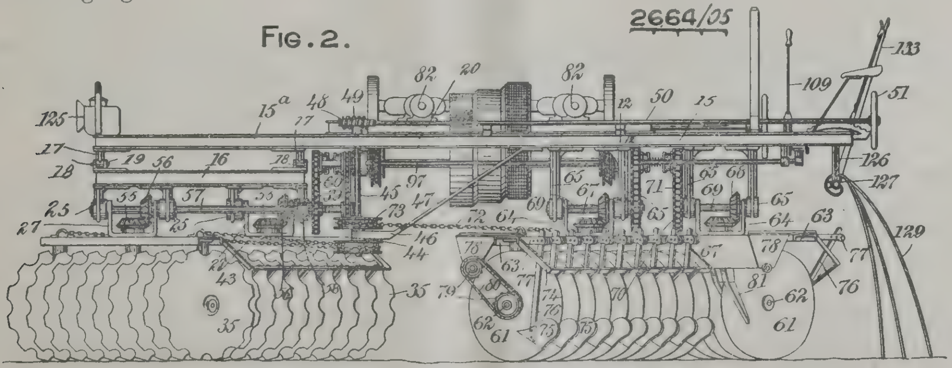


The motion is communicated through nests of universally mounted bevel gear, Fig. 2, to the axles of the plough discs, which act as driving wheels, and are notched on the front gangs **35**, but smooth edged on the rear discs **61**.

The frames **63** of the rear gangs carry seed boxes **78**, Fig. 2, fitted with drill spouts to convey the seed to the furrows; mould boards **75** are also attached to arms **76** for turning over the furrow.

At the rear of the upper frame **15**, a row of spring tynes, **124**, Fig. 2, are mounted on a tube **127**, round which a spiral turn is made for elasticity; adjustable end teeth **131**, Fig. 1, are used to mark the ground, or may carry shovels to break the ground between the gangs.

FIG. 2.



21 *typed pages*, 8 *claims*; 6 *fols. drgs.*, 14 *figs.*

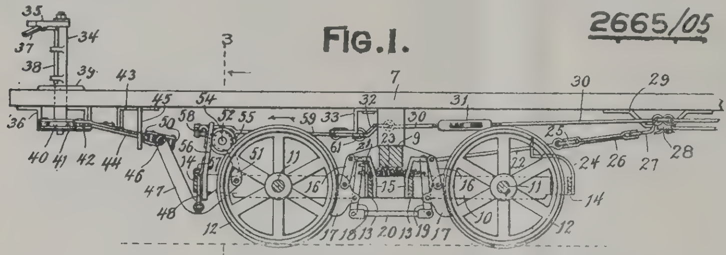
2665. 3 Mar. L. C. Kohler, 375 Ellen-street, Milwaukee, Wis., U.S.A., engineer.

Roller brake gear.

Classes 62.8 ; 96.6.

To utilize the momentum of the trains on the brake blocks without jamming or skidding, vertical cam-troughs **56** are flexibly attached to a cross-bar **14** of the bogie frames, and to the draw rod **59** of the brake gear ; between the wheel rim **12** and the trough **56** an axle **52** is mounted, and may be depressed or lifted by links from bell cranks **47** that are operated from the platform standard **34** by the brakeman ; the axles **52** carry rollers **54** which bear on the tyre, and other lesser rollers **55** which ride in the cam-troughs **56** ; normally the rollers **54** do not touch the tyre, but on drawing down the axle both **54** and **55** are brought into frictional contact and forcibly push the cam **56** away from the wheels and draw the brake rods **59** and **30**, &c.

FIG. I.



To prevent jamming, the sleeves on the axle **52**, carrying the rollers **54**, **55** are connected only by serrated clutch ends, compressed together by spiral springs adjusted so that before the wheels skid the rollers slip at the serrated clutch.

17 *typed pages*, 15 *claims ;* 1 *fol. drg.*, 5 *figs.*

2666. 3 Mar. *C.a.P.* 4 Dec.

G. M. Nelson, Smith-street, Warragul, Vic., agent, and R. Cleghorn, Seymour-road, Elsternwick, Vic., traveller.

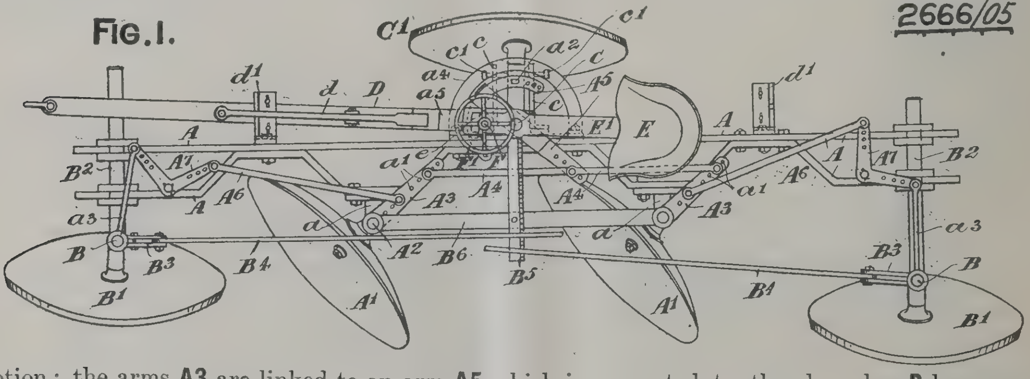
Reversible hill-side disc-plough.

Classes 30.7 ; 60.1.

The frame is made alike at both ends and may be drawn in either direction ; both the furrow wheels and discs, also the haulage gear, are separately mounted on vertical pivots and are reversed at each end of the furrow.

The beam **A** is formed of straight and zigzag bars bolted together as shown in the plan, Fig. 1 ; the furrow wheels **B1** are on vertical pivots **B** at the end of bars **B2** that may be moved laterally by sliding in the beam ; the discs **A1** run on horizontal gudgeons attached to vertical sleeves on pivots **A2** attached to the centre brackets of the beam **A** ; the sleeve shave lever arms **A3** projecting backwards by which they may be rotated about 90 degrees according to the direction of motion ; the arms **A3** are linked to an arm **A5** which is connected to the draw bar **D** by a quadrant bar with stops **a2** so arranged that when the draw bar is reversed nearly 180 degrees, the arms **A5** and **A3** only turn about 90 degrees, the relative angles being adjustable by means of

FIG. I.



several holes **a1** in the arms. The driver's seat **E** is also on a bracket **E1** that swings when the draw bar **D** is reversed.

The arms **A3** are linked by bell cranks **A7** and links **A6**, **a3**, to the slides carrying the furrow wheels, which are moved a slight angle on their ports **B** by the rods **B4**, at the same time as they are moved laterally on reversal.

The land wheel **C1** is on a bracket that may be adjusted vertically in slides by a screw and hand wheel **F1** ; a locking pedal **d** locks the draw bar **D** to holes in brackets **d1** at reversal.

Prov. 3 *typed pages.*
Comp. 6 *typed pages*, 5 *claims* ; 2 *fols. drgs.*, 3 *figs.*

2667. 3 Mar. *Comp. withdrawn.*

J. T. Allinson, Victoria-street, Warragul, Vic., saddler.

"Improved means of securing rugs on horses and cows and like animals."

Class 39.5.

2668. 3 Mar. *Prov. only.*

S. C. Magennis, Equitable Building, Melbourne, Vic., business manager.

"Improved pneumatic tyre."

Class 97.83.

2669. 4 Mar. *Prov. only.*

J. Lewis, Bellair-street, Kensington, Vic., machinist.

"An improved grain threshing apparatus."

Classes 32.3 ; 32.6.

2670. 6 Mar. F. J. S. Hutchinson, Towers and Boundary streets, Charters Towers, Qld., veterinary practitioner.

Application under Sec. 7, patented in—

Qld. ... 7545 ... 5th November, 1903.

Washing fluid ; soda, borax, &c.

Class 25.1.

Caustic soda 2 parts, bicarbonate of soda 1 part, borax 1 part are dissolved in 96 parts of water.

Three-quarters of a pint of the liquid are used to about 8 gallons of soap and water for clothes, and a much weaker mixture for domestic cleaning.

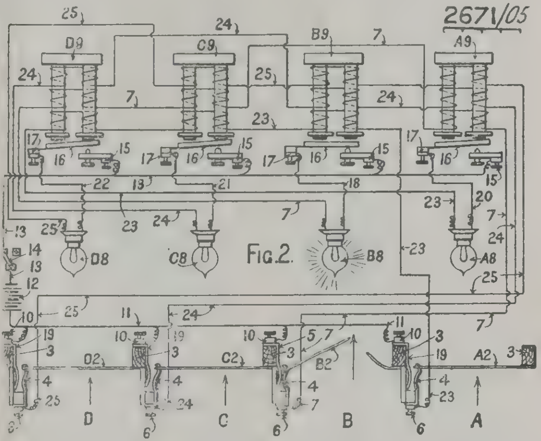
2 *MS. pages*, 1 *claim*. *No drawing.*

2671. 6 Mar. F. Silverthorn, Porcher-street, Newcastle, N.S.W., veterinary surgeon.

Electric lamp signals for foot races.

Classes 04.3 ; 53.3 ; 99.6.

Tape barriers **A**, **B**, **C**, **D** across the sections of the course, hold spring switch contacts **4** in the open position ; for each section of the course electro-magnetic switches **A9** to **D9** are provided, each of which is wound with the circuits from the three other switches **4**, but not from the switch **4** of its own section ; each circuit also passes through a lamp **A8** to **D8** (or other indicator) placed over the barrier of the section.



The switches **A9** to **D9** are normally closed, and are opened when the magnet is energized, so that, on any barrier being passed, the corresponding lamp is lit up, but as all the other circuits are simultaneously opened by the magnet switches, the subsequent operation of any other section switch **4** will not cause a lamp to glow.

5 *typed pages*, 3 *claims* ; 1 *fol. drg.*, 2 *figs.*

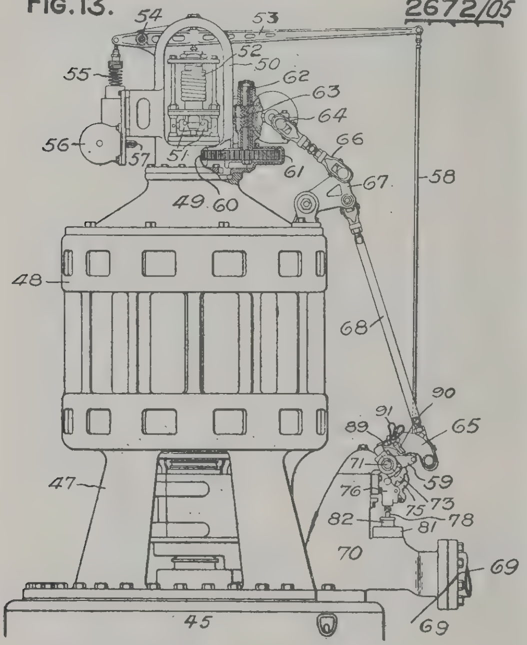
2672. 6 Mar. General Electric Company, Lyons-street, Schenectady, New York, U.S.A. (*assignees of* R. H. Rice, *act. inv.*, Lynn, Mass., U.S.A., engineer).

Speed-controlled disengagement governor for sectional turbines.

Classes 61.3 ; 61.9 ; 67.2.

A separate valve **21** is provided for each section of the turbine, and the several valves are arranged in rows under one or more rock shafts **71** ; each valve is opened or closed by a rocking cam-plate **73**, which is held in extreme positions by a spring detent **75**; to insure tight closure, a stiff spring **80** is interposed in the linkage.

FIG. 13. 2672/05



The cam-plates **73** are moved by rocking levers **65**, which receive harmonic motion through the link **68**, at about two cycles per second, from a crank **64**, driven by reduction gear **61** from the main shaft; the rocking levers carry a pair of reversed spring pawls **89** and **90**, each of which has a lateral cam-rib whereby it may be lifted by a projection on a shield plate **59**, in which case the cam or valve is not moved by the reciprocating lever; normally the projection on the shield plate is in a central position, so that as the lever **65** rocks, the pawls are lifted alternately clear of the teeth on the cam.

The shield plate moves slightly to one side or the other when the speed varies outside the prescribed limits, and then the opposite detent falls and the valve is completely and suddenly opened or closed, according to the direction of the irregularity.

The whole of the shield plates are coupled and rock in the same phase, but the projections may be stepped as desired; the position of the rock shaft is adjusted by the link **58** from the long end of the governor lever **53**, whose central point is moved by the centrifugal governor **51** on the turbine shaft; the short end of the lever is held down by a spring **55**, the tension of which may be varied (to synchronize the turbine with parallel generators) by an auxiliary electric motor **56**, with worm gear **57**.

2672/05

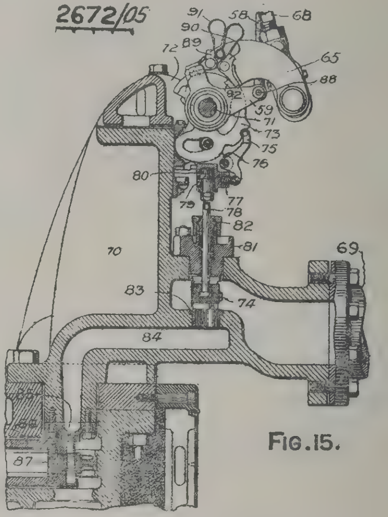


FIG. 15.

Modifications of the disengagement gear, of essentially similar action, are also detailed.

32 typed pages, 47 claims; 10 fols. drgs., 20 figs.

2673. 6 Mar. *Prov. only.*

W. DUNN, Victoria-street, Kerang, Vic., cycle mechanic.

> "A collapsible hydrant rest fastened to wheels of competition fire reels."

Class 88.1.

2674. 6 Mar. *Prov. only.*

C. H. WATSON, painter, A. R. POLLEY, bootmaker, and F. E. GARD, brewer, 447 Oxford-street, Paddington, N.S.W.

> "Improvement in mail bag fastenings and other like purposes."

Classes 54.3; 77.7.

2675. 6 Mar. *C.a.P.* 1 Aug.

T. J. MARTIN, 75 Studley-street, Abbotsford, Vic., engineer.

Acetylene apparatus for exploding rabbit burrows; spring gun.

Classes 21.87; 23.7; 38.9; 89.8.

Acetylene is generated in the chamber **1**, having a cover **3**, and clamp **4**; the water is regulated by a cock **7** and flows through the pipe **8** and a non-return valve **19** to the carbide.

Air is pumped in at **11** to mix with the gas in the mixing chamber **9**, and the explosive mixture is conducted by a tube from **14** to the rabbit burrow.

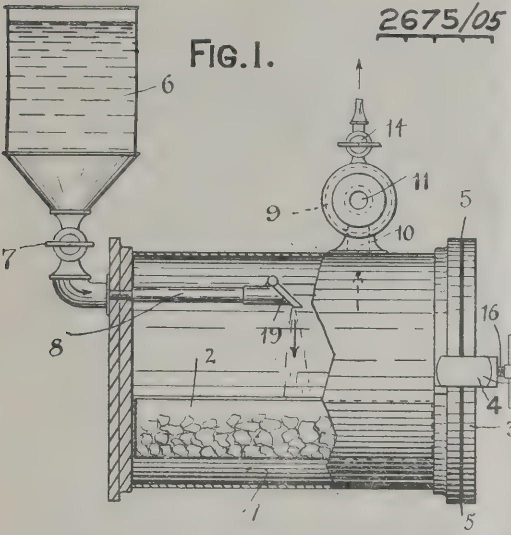


FIG. 1.

The mixture is exploded by a long spring-gun, Fig. 4, which is pushed into the burrow, and carries a percussion cap on the nipple **20**; the hammer **27** is withdrawn by the handle **25** and held by the lateral trigger **26**, which may be released from a distance by a cord.

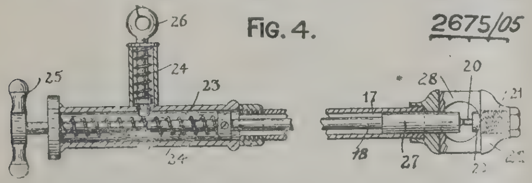


FIG. 4.

Prov. 3 *typed pages.*
Comp. 6 *typed pages,* 4 *claims;* 1 *fol. drg.,* 4 *figs.*

2676. 7 Mar. *Prov. only.*

W. Denness, 82 William-street, Melbourne, Vic., shipwright.

> "Means for preventing candles from running or guttering and for extinguishing the light of same."

Class 22.1.

2677. 7 Mar. *Prov. only.*

W. J. C. Downey, South Perth, W.A., law clerk.

> "Rapidly attachable and lockfast wind gauge for the back sight of rifles."

Class 89.5.

2678. 7 Mar. *Prov. only.*

T. Gunter, Keenan-street, Piccadilly, Kalgoorlie, W.A., miner.

> "A solution for, and its use in, the treatment of slimes and other auriferous ores."

Class 14.1.

2679. 7 Mar. *Prov. only.*

G. Miatke, Murray Bridge, S.A., and H. Aldenhoven, Rundle-street, Kent Town, S.A., farmers.

> "An improved lift or hoist for extracting stumps and trees, and other purposes."

Classes 30.2; 59.1.

2680. 7 Mar. C. Zoeller, Courier Buildings, Queen-street, Brisbane, Qld., importer, and J. Hodge, George-street, Brisbane, Qld., surgical instrument maker.

Dehorning lever shears; sliding cup blades.

Classes 37.1; 76.3; 87.4.

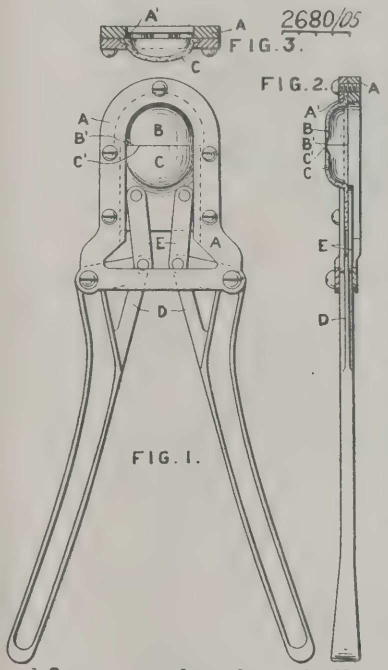


FIG. 3.

FIG. 2.

FIG. 1.

A metal frame **A** is formed of two plates screwed together so that a groove is formed between them; in the curved part a stationary knife **B** is held, and in the straight part the movable knife **C** slides; the cutters are closed by levers **D** and links **E**. The cutters **B** and **C** are cupped as shown in Figs. 2 and 3.

3 *typed pages,* 1 *claim;* 1 *fol. drg.,* 5 *figs.*

2681. 7 Mar. *Prov. only.*

F. A. Alcock, 212 Russell-street, Melbourne, Vic., manufacturer.

> "Improvements in billiard tables."

Class 53.6.

2682. 7 Mar. *C.a.P.* 18 Nov.

H. Braby, 85 Birchgrove-road, Balmain, N.S.W., engineer.

Vaporizing burners with spiral argand jets, and mixing fan.

Classes 22.5; 23.3; 74.9.

To produce intimate mixture of air with the vapour projected from jets against a coil **2** or other heater, the jets are arranged in an argand ring **5**, in front of which a small fan **3** is rotated by the blast.

FIG. 1.

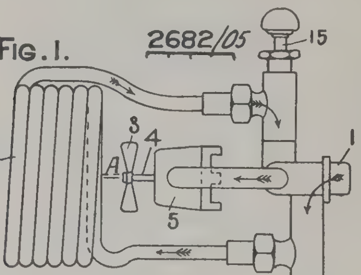
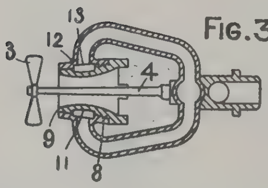


FIG. 3.



The argand jet is formed of an outer shell **12** with an inner sleeve **9** which is a screwed joint **8** at the base, and a cylindrical neck **9** in which spiral grooves of long pitch are cut, to form the jet apertures.

Prov. 2 *typed pages.*
Comp. 3 *typed pages,* 2 *claims;* 1 *fol. drg.,* 4 *figs.*

2683. 8 Mar. *C.a.P.* 20 Apr.

E. H. Davies, "Oakville," Centre-road, East Brighton, Vic., gentleman.

Metal wheel with rigid spokes and pneumatic bag hub.

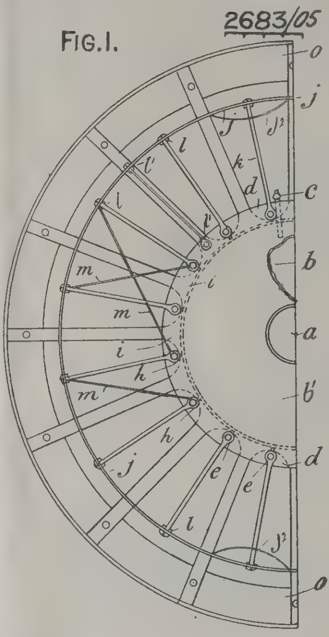
Classes 97.6; 97.83.

The wheel has a **T**-iron tyre **o** to the web of which short primary spokes are riveted; the inner ends of the spokes have rectangular end plates **i** which fit between discs **b1** attached to the hub; the space between the discs **b1** and the ends of the spokes is filled by a pneumatic ring tube **b** with the usual air valve **c**; the tube is protected by a leather band on which the primary spokes abut.

The discs **b1** have spokes **k** and diagonals **m** attached to an inner rim **j**, which is perforated for the primary spokes, by which it is guided, to allow some end play.

A modification has a corrugated inner rim as indicated at **j2**.

FIG. I.



Prov. 2 *MS. pages.*
Comp. 5 *typed pages,* 1 *claim;* 1 *fol. drg.,* 2 *figs.*

2684. 8 Mar. *Prov. only.*

G. Kanter, Horsham, Vic., brewer.

> "A sterilisator for the purpose of preventing the escape of gas from and the intrusion of unclean air into casks or any other closed vessels from which liquids (such as beer, wine, or the like) is drawn, and especially useful for the above purpose when connected with a closed bottle filling syphone-vessel."

Classes 27.8; 74.8.

2685. 8 Mar. *Prov. only.*

E. H. Whitmore, Ward's Building, Invercargil, N.Z., card boxmaker.

> "A folding box of cardboard or like material with clip fasteners attached thereto."

Class 48.5.

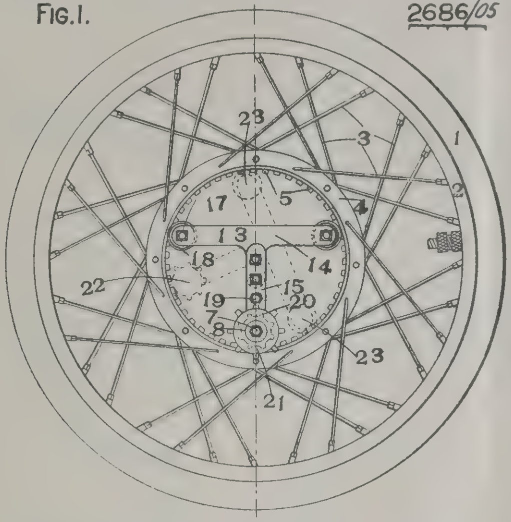
2686. 8 Mar. C. S. Bauld, *act. inv.*, Latrobe, Tas., engineer, and A. C. Dehle, *assignee*, Hobart, Tas., merchant.

Internal reducing gear and displaceable centre of gravity for driving wheels of motor cars, &c.

Classes 93.5; 95.9.

To reduce jolts, prevent damage to pneumatic tyres, and to facilitate hill climbing, the driving wheels have an annular hub-ring **4** with internal gear **5**, on which a shrouded pinion **8** on the driving axle **7** rolls; the pinion shaft is mounted on a triangular frame **13**, which may turn in the hub on rollers **18**, so that the motive effort (and also jolting) causes a displacement of the pinion **8** forward of the point of contact of the wheel with the ground, as shown in dotted outline.

FIG. I. 2686/05



6 typed pages, 4 claims; 3 fols. drgs., 4 figs.

2687. 8 Mar. *Prov. only.*

W. Grant, 140 Pakington-street, Geelong West, engineer, and J. H. C. Hall, 115 Pakington-street, Geelong West, engineer.

"An improved wind and water turbine."

Classes 67.5; 90.7.

2688. 8 Mar. *Comp. lapsed.*

H. J. Genn, 65 York-street, St. Kilda, Vic., advertising manager, and H. H. Hudson, 63 York-street, St. Kilda, Vic., milling engineer.

"Improved freestone water filter."

Class 28.1.

2689. 8 Mar. *Prov. only.*

J. J. Russell, Milton, N.S.W., assistant postmaster.

"Improvements in brakes for road vehicles, specially applicable to two-wheeled vehicles."

Class 93.3.

2690. 9 Mar. *C.a.P.* 20 Oct.

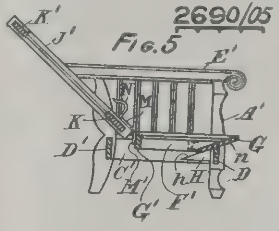
W. W. Campbell, 249 Clarence-street, Sydney, N.S.W., manufacturer (*communicatee of* National Adjustable Chair Company, Greenfield, Ind., U.S.A., *assignees of* D. M. Stewart, *act. inv.*, Greenfield, Ind., U.S.A., S. B. Saffell, *act. inv.*, Indianapolis, Ind., U.S.A., and E. J. Andrews, *act. inv.*, Greenfield, Ind., U.S.A., manufacturers).

Lounge chair; swing back, &c.

Class 45.1.

The back **K** swings on trunnions between the back posts of a substantial frame with side rails **E1**; the seat frame **F1** is hinged at the rear to the lower rail of the back frame, and its front slides on inclined blocks **H** inside the side frames, so that it remains nearly horizontal when moving; spring clasps **N** support the back cushion; and the rear of the seat may be loaded to balance the upper part of the back.

2690/05 Fig. 5



Prov. 2 *typed pages.*

Comp. 5 *typed pages,* 2 *claims;* 1 *fol. dry.,* 10 *figs.*

2691. 9 Mar. *Prov. only.*

J. F. McNeill, Spencer and Bourke streets, Melbourne, Vic., commercial traveller.

"Improvements in the driving mechanism of bicycles or other crank-driven or propelled machines."

Class 94.5.

2692. 9 Mar. *Prov. only.*

T. Gribben, *act. inv.*, Congupna-road, Shepparton, Vic., farmer, and G. Gibbins, *assignee*, 32 Cowper-street, Footscray, Vic., implement manufacturer.

"Improvements in and relating to grain harvesting machines."

Class 32.3.

2693. 9 Mar. *C.a.P.* 27 Mar.

G. R. McDonald, Broken Hill, N.S.W., civil servant.

Railway fish-joint with nut locking plates.

Classes 78.4; 98.1.

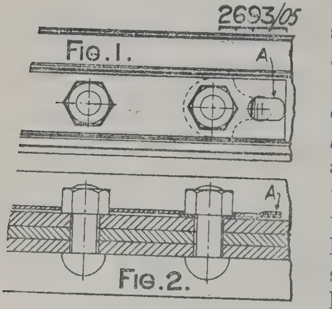

2693/05

Fig. 1.

Fig. 2.

The illustration shows one end of a 6-bolt fish-joint; under the nuts at each end a washer **A** is placed having a radial tongue which is bent upward; a second locking-plate has six hexagonal holes to fit easily over the nuts, and additional holes at each end which fall over the upturned tongues of the washers **A**; the tongues are finally pressed down as in Fig. 2 to secure the locking plate.

Prov. 3 *typed pages,* 1 *fol. drg.,* 4 *figs.*
Comp. 4 *typed pages,* 3 *claims.*

2694. 9 Mar. *Prov. only.*

G. H. Olding, Bennett-street, Bondi, N.S.W., coachbuilder.

"Improved movable partition or fence for dividing flocks or herds of animals when assembled in yards or wagons."

Classes 37.3; 96.1.

2695. 9 Mar. E. L. Robertson, 2 Torquay-terrace, Wellington, N.Z., storeman.

Egg trays with double rows of wire clips.

Classes 57.9; 58.4.

A wire **2** is bent into a series of large upper loops to fit against the egg, with small intermediate loops **1**, **5**, in the lower bight, by which the clips may be nailed to the sides of the cross battens of the tray; each batten has a looped wire at each side and supports a row of eggs as shown.

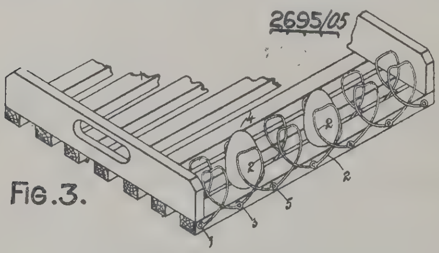

2695/05

Fig. 3.

Three alternative arrangements of the loops are shown, in some of which the small loops are attached to stronger wires by galvanizing, in place of being nailed to battens.

4 *typed pages,* 2 *claims;* 1 *fol. drg.,* 6 *figs.*

2696. 9 Mar. W. H. Pearson, Dunedin, Otago, N.Z., gentleman (*communicatee of* J. Jamison, *act. inv.*, Eglinton-road, Mornington, Dunedin, N.Z., draper).

Equalizing power from tidal storage.

Class 82.4.

A main embankment **2** across the mouth of a tidal bay forms a reservoir which is subdivided by other embankments **5** to **9** radiating from the primary embankment to the shore; turbines **24** to **31**, and sluices **16** to **23**, are mounted in the main and subsidiary embankments in such a way that some of the turbines can always be used, and power equalized, by water held back during the mid tide and utilized at the changes, or by flow from one section to another at intermediate stages of tide.

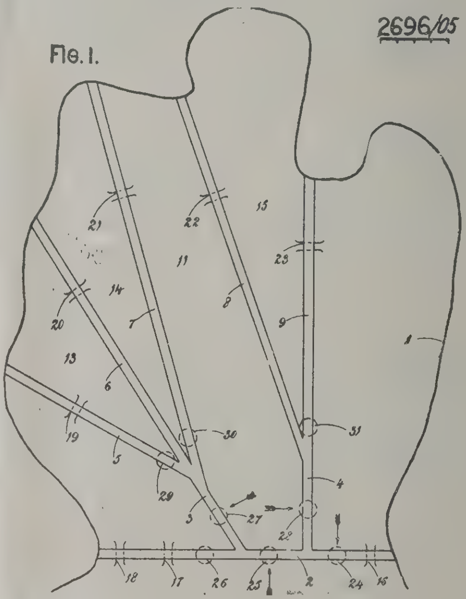

2696/05

Fig. 1.

4 *typed pages,* 3 *claims;* 1 *fol. drg.,* 1 *fig.*

2697. 9 Mar. *Prov. only.*

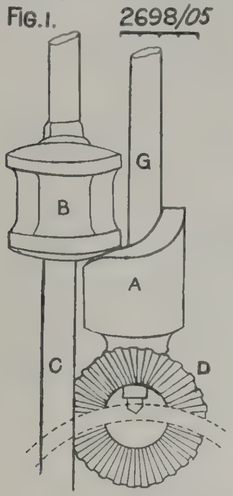
W. F. Lietz, *act. inv.*, 35 Moray-place, Dunedin, N.Z., engineer, and E. Ryffel, *assignee*, Port Chalmers, N.Z., mariner.

"Improvements in portable receptacles."

Class 48.5.

2698. 10 Mar. J. Leslie, Abbott-street, Bendigo, blacksmith.

Fig. 1. 2698/05



Rolling helical cams on vertical shafts, for ore stamps.

Classes 10.2; 60.2.

A lifting cam **A** on a verticle shaft **C**, is rotated by bevel gear **D** from the lay shaft; the upper edge of the cam has a suitable spiral surface which has approximate rolling contact with the lifter **B**, which is thereby suitably rotated between each drop.

3 *MS. pages*, 3 *claims*; 2 *fols. drgs.*, 2 *figs.*

2699. 10 Mar. *Prov. only.*

J. Shepherd, Greymouth, N.Z., engineer.

Improvements in water gauges for steam boilers.

Class 63.7.

2700. 10 Mar. *Comp. lapsed.*

R. R. Plumb, North Fremantle, W.A., engineer.

A new or improved fuel, to be called "Plumb's improved Commonwealth fuel."

Class 20.2.

2701. 10 Mar. *Comp. lapsed.*

Flora I. Leeder (*assignee of* W. F. Leeder, *act. inv.*), 443 Oxford-street, Paddington, N.S.W., chemist.

A fumigating machine.

Class 38.9.

2702. 10 Mar. *Prov. only.*

G. T. Pritchard, 42 River Bank, Wanganui, Wellington, N.Z., gentleman.

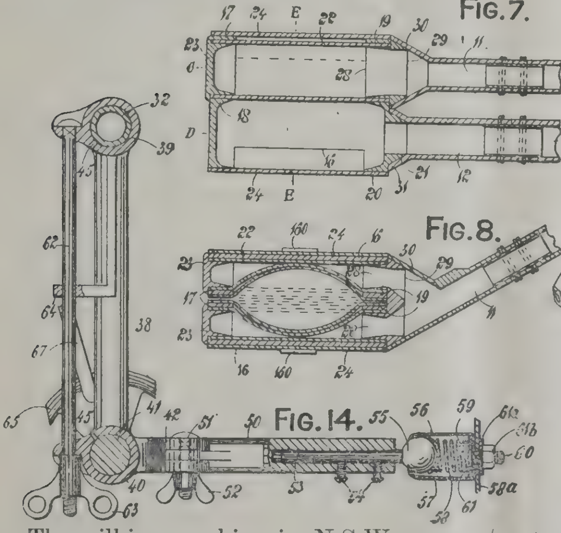
Danger signalling apparatus for railway crossings.

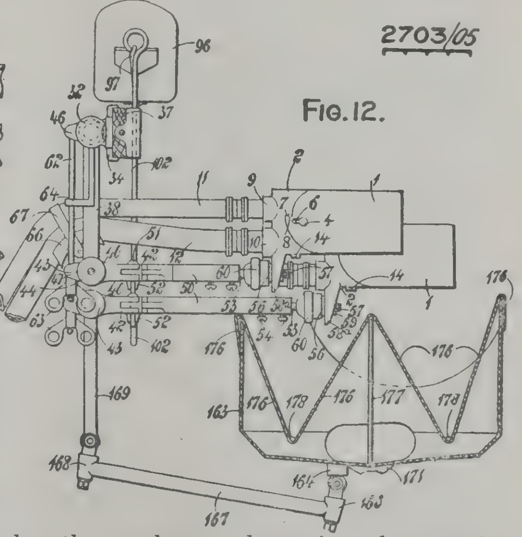
Classes 98.2; 99.1.

2703. 10 Mar. G. Hutchinson, Seatoun, Wellington, N.Z., inventor.

Milking machinery; with pulsating compressor.

Classes 36.1; 65.4; 69.4.





The milking machine in N.S.W. 12,974/03 is modified in seven details:—

(1) The "teat press" or rigid case of the flexible pouches is formed in two parts (Fig. 12), a back part **2** having sockets **9** to guide the tubes **11** attached to the pouches, and a front part or cover **1** that is hinged at **4** and may be turned up and held in position by the stud **7** when the pouches are drawn into the case after cleaning.

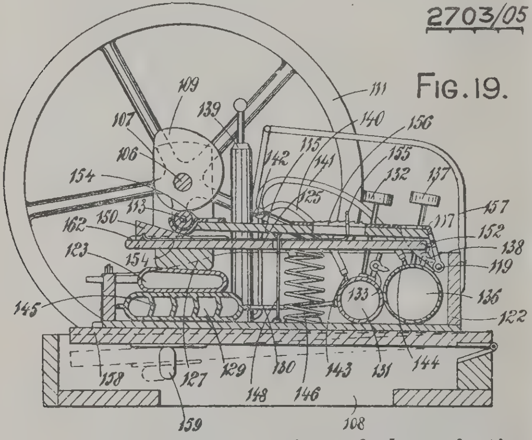
The upper "grip" pouches are formed of a rubber tube **22**, Figs. 7 and 8, attached at the ends over ferrules **17**, **19**, closed at one end by a cap **23**, and connected at the other end to bosses **25** with pipe connexions; the lower "follower" pouch is formed of a sheet of rubber folded around the lower part of the frame **16** and secured at the sides. Each pair of frames **16** are attached laterally (as in plan Fig. 8) so that a teat pouch Fig. 8 is formed between the inner flexible surfaces, the ferrules **19** connect to a common pipe, and the rubber is vulcanized in position.

(2) The teat presses are independently supported (Figs. 12 and 14) by ball sockets **56** on the end of nearly horizontal arms **50** having adjustable swivels at **51**; arms **50** are attached by a joint **40** at the foot of a vertical rod **38**, which is one of a row of four clamped at the top on a horizontal spindle **32** fixed to the suspension bar **37**; the sockets on both ends of **40** are split at **45** and may be locked simultaneously by the bolt **62** with wing-nut **63**.

(3) The apparatus is elastically and adjustably suspended by a spring pole from the roof frames by a laterally arching body-bow, from the lower end of which a bar **37** (Fig. 1) supports the spindle **32** by brackets **34**, and also carries a curved belly pad **96** which bears against the cow in front of the udder, and is held up by the supporting springs near the roof.

2703/05

FIG. 19.



(4) Fig. 19 is a section of the pulsating compressor which is in duplicate, one side having the smaller bag being connected to the main pipe **1** leading to the upper "grip" pouches, and the larger bag to another main leading to the lower "follower" pouches.

The shaft **106** carries two spiral cams **109**, one for each side, which depress spring-returned lever boards **162** by rollers **131**; under the board is a compression bag **123**, supported on an air cushion **145**, the upward rise of which is limited by internal vertical tie partitions; the cushions are severally connected to air reservoirs **131**, **136** in which the pressure is initially adjusted by a hand pump **139**; the maximum rise of the lever board is limited by the leather thong **148**.

(5) To give the "grip" pouch a lead in advance of the "following" pouch which squeezes the milk out of the teat, wedges **150** are adjusted between the two boards forming the compressing lever.

(6) To start the pulsations gradually, the pulsating bags and levers are mounted on a hinged platform **158** which may be gradually raised from the dotted position in Fig. 19 by turning the cam **159** below.

(7) The milk is collected in vessels **163** Fig. 12 (having splash guards of flannelette **176**) which are supported on adjustable arms **167**, **169**, from the bar **37**.

25 *typed pages*, 25 *claims*; 7 *fols. drgs.*, 27 *figs.*

2704. 10 Mar. J. B. G. Bonnaud, 50 High-street, Dover, Kent, Eng., chemist.

Application under Sec. 7, patented in—

Vic. ...	19,059 ...	12th March, 1902.
N.S.W....	11,867 ...	13th March, 1902.
S.A. ...	5781/5617 ...	13th March, 1902.
Tas. ...	3335 ...	13th March, 1902.
Qld. ...	6523 ...	15th March, 1902.
W.A. ...	3787 ...	18th March, 1902.

Flexible waterproof varnishes, &c.

Classes 41.9; 79.3.

One pound each of nitro-cellulose and camphor are dissolved with five to nine grams of vanillin in one gallon of methylated spirits.

Two to 6 parts of gum copal, dissolved in 180 parts of boiling castor oil are mixed with 1 to 4 parts of a mixture of equal parts of sugar of lead, litharge, and white copperas.

One hundred and eighty parts of the former solution, mixed with 10 to 30 parts of the latter, form a varnish that may be spread by usual machines like indiarubber solution, and may be dried by steam heaters like rubber fabrics.

3 *typed pages*, 2 *claims*. *No drawing.*

2705. 10 Mar. *Prov. only.*

W. X. Redman, 1 Campbell-street, Paddington, N.S.W., dyer.

Improvements in framed portraits and other pictures.

Classes 46.5; 54.1.

2706. 10 Mar. *Prov. only.*

J. Berry, Dunn's-road, Mornington, Vic., farmer.

An improved rapid economic seed sower.

Class 31.1.

2707. 10 Mar. *Prov. only.*

J. Nichol, Wahroonga, N.S.W., carpenter.

An improved tap for sheet metal vessels.

Classes 22.4 ; 74.8.

2708. 10 Mar. P. Le Sueur, Calabasas, Los Angeles, Cal., U.S.A., farmer.

Oil cup, axle chamber, and hub cap for vehicle wheels.

Classes 60.9 ; 93.3.

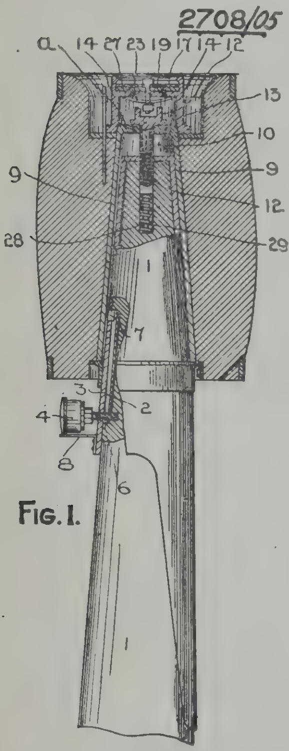


Fig. I.

Lubricant may be supplied at will to either end of this cart axle (particularly in hot climates) without removing the wheel.

The conical axle box **9** is closed at the small end by a plate **a** formed integrally with it ; a central retaining bolt **12** is screwed into the axle gudgeon **1** against a locking spring **28** ; a hole **13** in the plate **a** allows lubricant to enter the space **10** from the outer cap **14** which is screwed on as usual ; when the vehicle is standing in a hot climate the wheel is turned to bring the hole **13** to the top and prevent waste of lubricant.

The cap **14** has a recessed cover **19**, held in place against an intermediate leather washer by a central bolt and spring **23** ; holes or ports are perforated through the leather and the cap, and a single hole in the cover **19** may be turned to correspond when the cap needs refilling.

The large end of the axle bearing is lubricated by the grease cup **4** which is screwed into a tube **3** placed in a groove in the top of the axle to lead the grease to the exit at **7**. The grease cup has a screwed cap which is filled with lubricant and fed as desired by turning the cap, which is prevented from shaking round by a spring finger **8**.

16 *typed pages,* 14 *claims ;* 1 *fol. drg.,* 9 *figs.*

2709. 11 Mar. *Prov. only.*

J. M. Hannon, Swan Hill, Vic., engine-driver.

Improved ejector dust extractor.

Classes 25.9 ; 69.1.

2710. 11 Mar. *C.a.P.* 11 Dec.

H. L. Wilkinson, Equitable Building, Collins-street, Melbourne, Vic., mining engineer.

Mining deep leads.

Classes 59.9 ; 85.1.

Both the complete and provisional specifications describe in identical words a method (resembling "long wall" coal mining) of mining alluvial deposits in deep leads, using shields such as are described in 2711/*05*, in which the adjustable roof is so sloped that the pressure of the falling overburden forces the shield forwards against the face which is to be removed.

Prov. 6 *typed pages.*
Comp. 6 *typed pages,* 1 *claim.* *No drawing.*

2711. 11 Mar. *C.a.P.* 11 Dec.

H. L. Wilkinson, Equitable Building, Collins-street, Melbourne, Vic., mining engineer.

Adjustable shield with automatic advance for mining alluvial deposits.

Classes 59.9 ; 85.1.

The specifications repeat the description of the method in 2710/*05* with slight paraphrase.

The shield for supporting the roof and protecting the miners has a roof of metal plating in two portions, the cutting or advancing portion **A**, and the apron or trailing portion **M** ; both coverings are hinged on the central post **N** at the junction **L** and may be adjusted at the outer ends by means of screwed columns **N** pivoted at both ends.

The shield is carried on a truck or trucks **G**, which can be moved forward transversely to the working face **E** as the work progresses ; above each truck are frame girders hinged to the columns, which support longitudinal beams **J** extending the whole length of the working face. The apron **M** prevents the subsiding materials getting into the working space, and is set at such an angle that the pressure of the falling back material has a component in the direction of motion of the shield towards the face **E**. The columns or struts **N** can be raised or depressed by the wheels **O**, **P**, and **Q**.

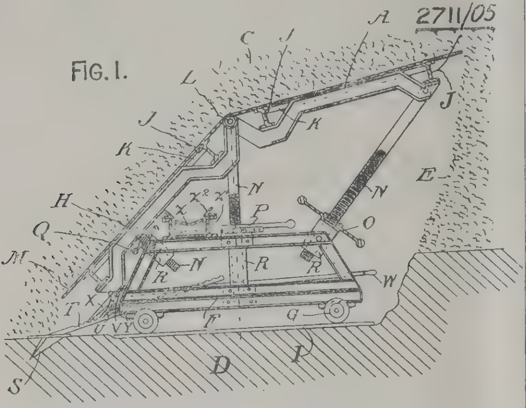


FIG. I.

Z is a conveyor belt in a continuous trough $\mathbf{Z}_2$ which extends the whole length of the working face.

The forward motion of the shield may be performed by thrusting at spade **S** on the rack bar **T** which is fed or released by the lever **W**, having reversed pawls **U** and **Y**, and may be held by the detent **X**.

The trucks may also be moved forward by means of a winding drum and cable, or the arm **T** may be operated by a screw; the direction may be reversed by altering the slopes of **A** and **M**.

Prov. 8 *typed pages.*
Comp. 11 *typed pages,* 7 *claims*; 2 *fols. drgs.,* 2 *figs.*

2712. 13 Mar. P. T. Godsal, Iscoyd-park, Flintshire, near Whitchurch, Shropshire, Eng., gentleman.

Magazine rifle; block-bolt action.

Class 89.3.

Instead of the usual rotation of the breech bolt as a whole, in this action the bolt head **14** and stem (or "carrier" piece) **6** do not rotate, but simply slide to and from the loading and firing positions; between the head **14** and the stem **6**, is the rotatable block **1**, attached to the lever **3**.

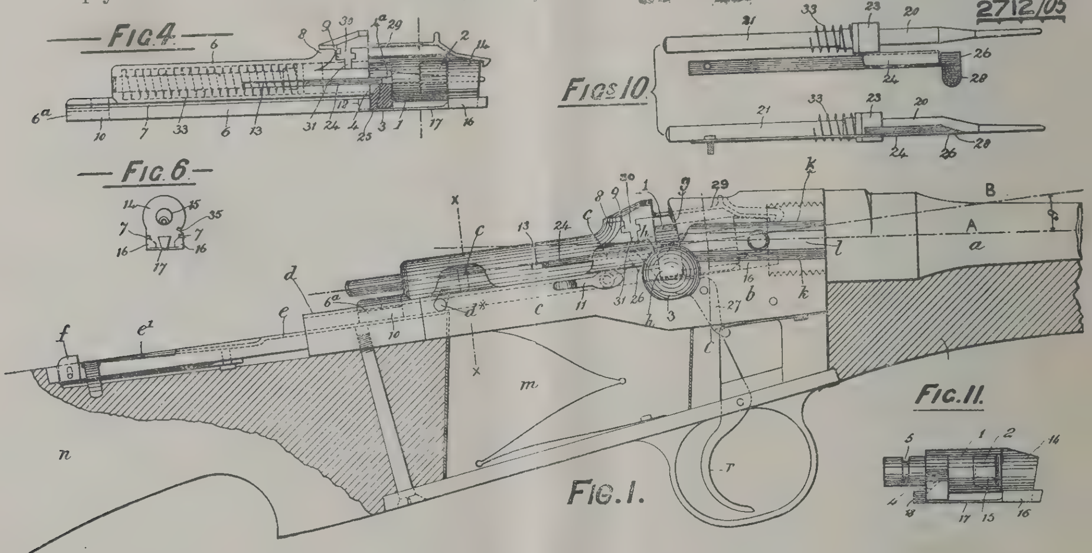


Fig. 4.

Fig. 6.

Figs. 10.

Fig. 1.

Fig. 11.

The breech piece **b**, and the butt **n** are set at an angle of about 6 degrees to the barrel and stock **o** as shown by dotted lines **A** and **B**, Fig. 1, and the sides **C** of the breech are carried back and form slides having parallel internal ribs on which the stem and head are guided by the grooves **7**, **7**, Fig. 6. The stem or carrier **6** is hollow, and carries internally the striker **20** and main spring **33**. The stem and head **14** are connected below the rotatable block **1** by a metal plate **17**, attached by dovetail lugs at each end. The block **1** has an axial stem, Fig. 11, extending rearwardly into the stem, and similarly the head **14** has a rearward projection **15** fitting into the block **1**, all the parts being bored for the access of the striker **20**.

The block **1** has forward lugs **2**, which enter the breech and lock in recesses when rotated a quarter turn as usual; there are also lower projections **16**, which push the cartridge risen from the magazine into the barrel. The extractor **29**, Fig. 4, is attached to the carrier **6** by the transverse lug **30**, and projects forward over the block **1** and head **14**.

In order that the striker **20** will strike the centre of the cartridge cap, its point is made eccentric to the axis of the bolt head **14**, as shown in Fig. 6, and the inclined position enables the cartridge to be lowered with reference to the axis of the bolt, so that the solid ejector pin **d*** projecting inwardly from the side of the breech block **c** may be used.

The striker **20, 21** has a piston **23** which fits the carrier **6**, and projecting from the side of the striker is a cocking piece **24** which comes in contact with a scear or detent **26** placed at the side of the action. The trigger **r** and guard (when used) are placed in front of the magazine **m**; but they may be dispensed with, and a spring catch **26**, Fig. 1c, used, which is capable of being pushed in by the finger to discharge the cartridge; the scear may be dispensed with also, the catch **26** operating against the cocking piece **24** on the striker **2**.

A safety bolt **11** near the lever **3**, Fig. 1, may be turned so that when the bolt is in one position it will clear the point of the scear **26** and allow it to drop, and in the other position will prevent the release of the striker.

The action has a bolt stop **f** lying in the path of the bolt, which may be depressed so that the bolt will slide over it. A cut-off slide **e e**^{1}, Fig. 1, is provided to cut off the magazine when desired, consisting of a thin plate of metal having a handle projecting laterally outside the action.

Prov. 4 *typed pages.*
Comp. 20 *typed pages*, 8 *claims*; 3 *fols. drgs.*, 13 *figs.*

2713. 13 Mar. *Prov. only.*

A. A. Adams, *assignee*, 36 Camomile-street, London, Eng., merchant; W. F. Fair, *act. inv.*, 83 Balfour-road, Ilford, Essex, Eng., agent; and T. Sears, *act. inv.*, Chadwell Heath, Essex, Eng., gentleman,

"Improvements in or relating to churns."

Class 36.7.

2714. 13 Mar. *Prov. only.*

Emmeline C. Byrne and A. Somerville, 3 Risley-street, Richmond, Vic., boot manufacturers (*assignees of* S. Byrne, *act. inv.*, 3 Risley-street, Richmond, Vic.).

"Improvement in sewing soles in boots and shoes."

Class 44.3.

2715. 13 Mar. H. Cliff and J. C. Bunting, 27 Blackwood-street, North Melbourne, Vic., agricultural implement manufacturers.

Lifting gear for chaff-cutter combs.

Class 10.7.

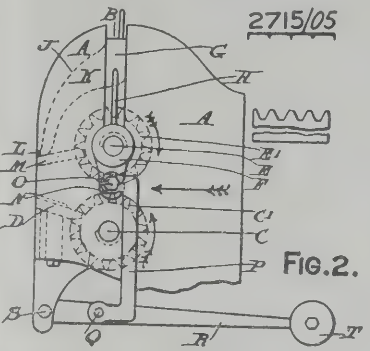


FIG.2.

To prevent the choking of the clearing comb of the upper roller of a chaff-cutter when the roller rises for a thick feed, instead of the comb **M** being fixed to the frame, it is bolted to a flange **L** on an apron-bracket **J**, which is formed integrally with lateral slide blocks **G**, the lower ends of which carry the bearings **F** for the upper roller spindle **E**; thus the comb rises and falls with the roller, and the space between the comb and roller does not vary. Below the bearing **F** is an eye **N**, to which the links **P**, from the compressing levers **R**, are attached.

6 *typed pages*, 2 *claims*; 1 *fol. drg.*, 4 *figs.*

2716. 13 Mar. *Prov. only.*

S. Michalopoulos, 231 Bay-street, Port Melbourne, Vic., restaurant-keeper.

"Improvements in corkscrews."

Class 76.5.

2717. 13 Mar. *C.a.P.* 30 Dec.

M. T. O'Connell, Corowa, N.S.W., farmer.

Brace for straining and breaking fence wires.

Class 58.3.

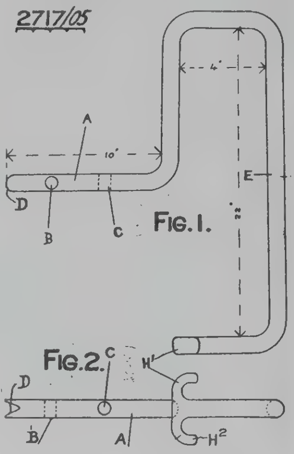
The brace is made of a metal rod bent as in Fig. 1, with two wire holes at **B** and **C**, a double detent hook at **H**, and a V-notch at **D**; **E** is the handle by which the part **A** is rotated for winding.

The wire to be broken is held in the V-notch at **D** and bent reversely by turning the brace backwards and forwards until the kink breaks.

To join loose ends, a loop is formed on one end of the wire and passed over the axle **A**;

the opposite wire is passed through the loop and into one of the holes in the shaft **A**, and wound on the shaft until it is tight.

The hook **H** is hooked over the wire as a detent while further slack is shaken up, and when the wire is sufficiently tight the strainer is used as a lever for fastening the end by twisting around itself.


2717/05

Prov. 2 *typed pages;* 1 *diagram.*
Comp. 3 *typed pages,* 2 *claims;* 1 *fol. drg.,* 2 *figs.*

2718. 13 Mar. *Prov. only.*

P. L. Harkin, Gladstone-avenue, Magill, S.A., engine-driver.

"An improved automatic fire kindling appliance."

Class 20.8.

2719. 13 Mar. *Prov. only.*

N. H. MacKenzie, 743 Harris-street, Ultimo, N.S.W., engineer; E. B. MacKenzie, Macquarie-street, Sydney, N.S.W., clerk; and M. K. MacKenzie, 743 Harris-street, Ultimo, N.S.W., engineer.

"An improved machine for manufacturing horseshoes."

Classes 39.3; 71.3.

2720. 13 Mar. G. G. Turri, Salisbury-building, 150 Queen-street, Melbourne, Vic., patent attorney (*agent of* J. Paterson, *act. inv.*, carpenter; and G. K. Pasley, *act. inv.*, accountant, Gisborne, Vic.

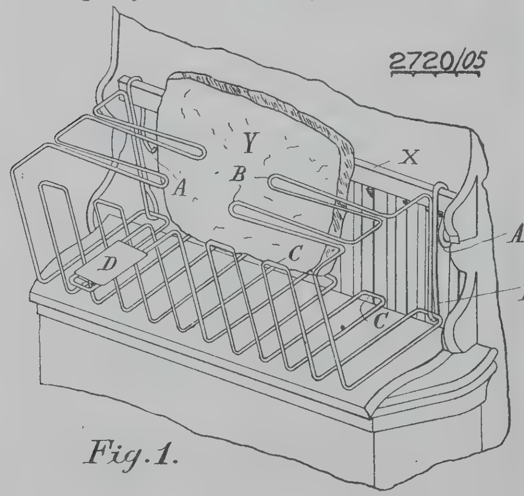

2720/05

Fig. 1.

Toasting rack for fire bars.

Classes 24.7 ; 58.4.

The body of rack is composed entirely of looped wire **C** arranged without longitudinal ties to allow bending for expansion or contraction; the loops **B** are formed tongue-like to support the bread **Y**; the rack is hung to the bar **X** of grate by hooks, and has a handle **D**.

A gravy dish for grilling may be placed on the bottom bars.

3 *typed pages,* 3 *claims;* 1 *fol. drg.,* 2 *figs.*

2721. 14 Mar. *C.a.P.* 13 Dec.

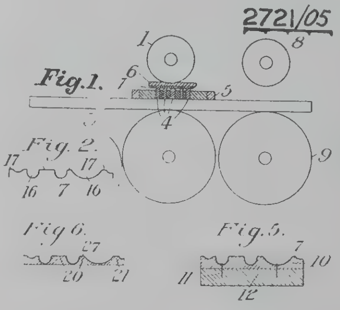
E. N. Waters, 414-418 Collins-street, Melbourne, Vic., patent attorney (*communicatee of* W. J. Yeoell, *act. inv.*, 1867 Seventh-avenue, New York, U.S.A., artist).

Metal-faced matrix for stereotyping, &c.

Classes 50.2; 52.8.

To avoid the defects of torn details from under-cut parts, hollow surfaces, &c., resulting from the production of stereo-moulds in flong, &c., both for type work and toned blocks, and to eliminate the necessity for an engraved or cast negative surface, the moulds are faced with a sheet of thin malleable material.

The metal foil and the type or process-plate are forced together by a kneading or swaging pressure, firstly with a soft pulpy blanket which folds the foil alternately against every projection of the original, and subsequently with a harder blanket that gives sharpness to the details of the printing edges.


2721/05

The thin foil of copper, brass, aluminium, steel, or other suitable material is laid on the type, covered with a homogeneous blanket like pulpy paper, and passed through rolls as in Fig. 1; the second or subsequent pressure under a harder blanket may be done by the second rolls, or by more rolls if necessary.

Fig. 2 shows the section of the replica after rolling, which may be backed as in Fig. 6, and mounted on a block as in Fig. 5. To facilitate backing, the foil may be tinned on one surface before rolling. To form curved plates the replicas may be used as a mould for casting in curved moulds.

Direct action presses with rocking platen may be used instead of rolls, and sheets of steel, say ·001 to ·002 inch thick, may be worked with a blanket having a harder stratum formed by a solution of guttapercha, lac, gypsum, &c., or with a piece of lead, wet leather, or other material. The replicas of steel may be hardened and tempered.

Prov. 15 *MS. pages.*
Comp. 20 *typed pages,* 32 *claims;* 2 *fols. drgs.,* 13 *figs.*

2722. 14 Mar. J. F. Webb, 20 Louvaine-road, Spencer Park, Battersea, Eng., engineer.

Graphite electrodes for cyaniding.
Classes 07.6 ; 14.4.

To reduce the bulk of electrolyte cells for separating gold from cyanide solutions, graphite electrodes are used instead of metallic ores, reducing the liquid space to one-sixth or one-eighth of the usual thickness. Both electrodes may be of graphite, or zinc cathodes coated with graphite may be used.

When the current passes, particles of carbon are detached from the anode and become mechanically associated with the gold on the cathode, the mixture being readily removable without melting.

3 *typed pages,* 3 *claims. No drawing.*

2723. 14 Mar. J. F. Webb, 20 Louvaine-road, Spencer Park, Battersea, Eng., engineer.

Vacuum belt filter. Class 28.2.

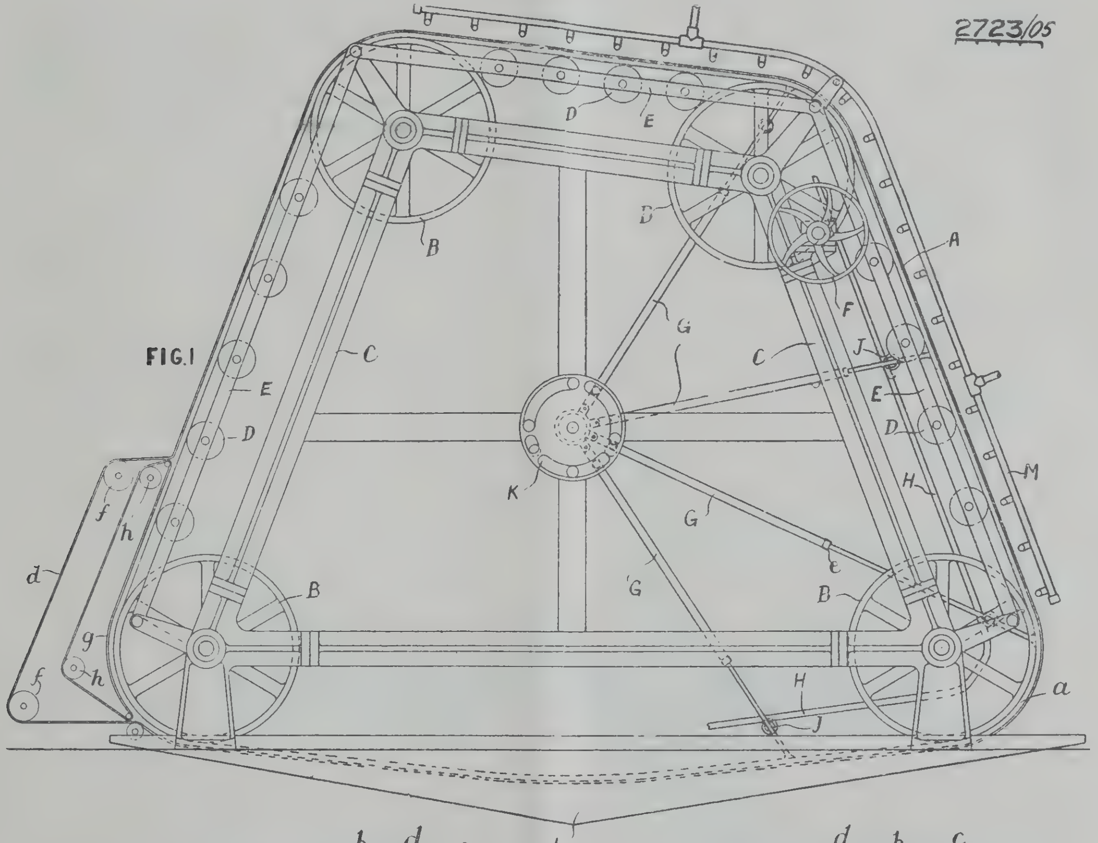


FIG.I

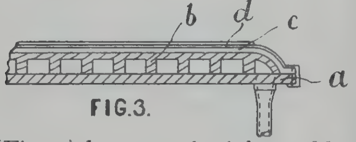


FIG.3.

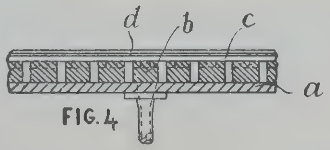


FIG.4.

The belt **A** (Fig. 1) has an air-tight rubber base, **a** (Figs. 3 and 4) supporting a perforated wooden layer **b** covered with jute matting **c**, and an outer filter cloth **d**. The matting is attached to the rubber back to close the edge as in Fig. 3, but the outer filter cloth **d** is not attached, and is of greater length to allow of opening out at the cleaning place on the left of Fig. 1.

The band travels on four pulley wheels **B**, Fig. 1. There are radial pipes **G** from a central valve **K** to various parts of the band where suction can be applied; each pipe is telescopic, and has a roller **J** at the end near the filter band, which travels on a guide **H** to vary the length of the pipes around the polygonal frame.

The band dips into a tank **L** containing the sludge; suction is applied and a certain amount of sludge adheres to the band, ascends and is washed by sprays of water from pipes **M**. On descending, the filter cloth **d** passes over an outer set of rollers **f**, and the solid material falls off the band **d**, while the vacuum is preserved by an inner band **g** on rollers **h**, which lies close to the jute **c**.

5 *typed pages*, 5 *claims*; 3 *fols. drgs.*, 4 *figs.*

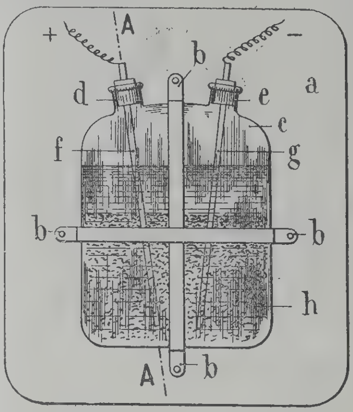
2724. 14 Mar. F. F. Bourdil, 56 Avenue d' Jena, Paris, France, engineer.

Immersed carbon microphone for high-tension telephoning.

Class 05.7.

The acting and movable parts of the microphone are entirely immersed in a fluid medium (such as petroleum, glycerine, &c.) which is sufficiently insulating and prevents the production of sparks.

Fig. 1.



2724/05

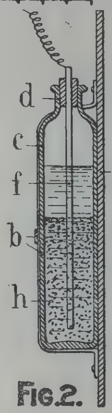


Fig. 2.

The bottle **c** attached to the vibrating diaphragm **a** has two small tubes **f**, **g** containing carbon rods constituting the two poles of the microphone; these carbon rods are in contact with the granulated coal **h** constituting the moving part of the microphone.

The submersion enables currents of high tension to be used without irregularity in transmission of speech, from sparking or discontinuity.

6 *MS. pages*, 3 *claims*; 1 *fol. drg.*, 2 *figs.*

2725. 14 Mar. *C.a.P.* 18 Oct.

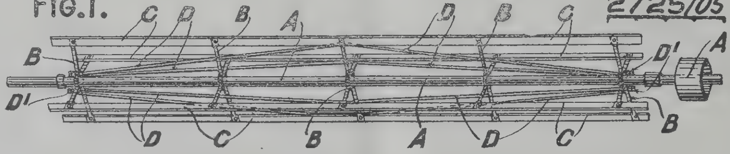
T. H. Rodda, Thomas Plain, S.A., farmer, and F. E. Illman, Dollingville, S.A., machinist.

Trussed stripper beaters.

Classes 32.3; 32.6.

To prevent the bending and warping of beater drums, they are trussed by means of diagonal braces from the spiders and arms to the beater spindle. The tension rods **D** are preferably passed in front and back of the spiders **B** and are tightened by nuts **D**^{1}.

Fig. 1. 2725/05



Prov. 2 *typed pages.*
Comp. 4 *typed pages*, 4 *claims*; 1 *fol. drg.*, 3 *figs.*

2726. 14 Mar. Lamson Paragon Supply Co. Ltd., Paragon Works, Canning Town, London, Eng., manufacturers (*assignees of* F. Waite, *act. inv.*, The Lindens, Otley, York, Eng.).

Printing and paging counter books.

Classes 50.1; 50.8; 54.5; 56.2.

In Fig. 1, the paper passes from the roll **35** successively over rollers **37**, **38**, and through the ends of paging devices **39**, **40**, **41**, and the guide roller **42**, to a tensioning

FIG. 1. 2726/05

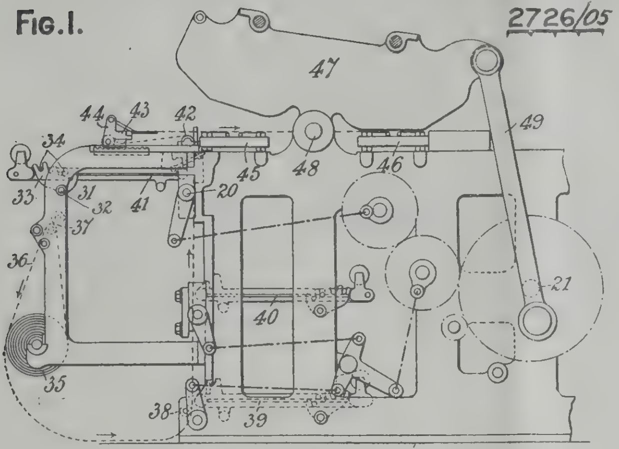
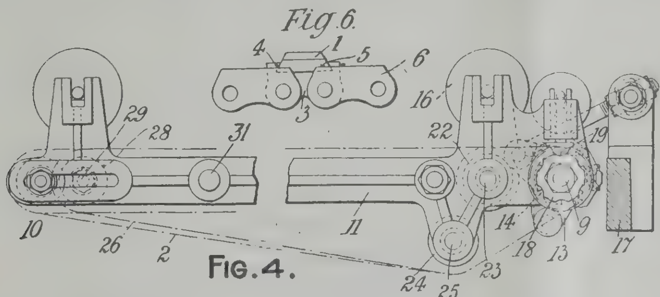


Fig. 6. FIG. 4.



and register-adjusting device **44**, whence it passes between platens **45**, **46**, and the type faces of a rocking press **47**, which prints the tabular matter or headings in proper register with the various numberings that have been impressed by the devices **39**, **40**, **41**.

Fig. 4 shows one numbering device such as at **41**; a frame **11** is rocked to and fro against the platen **17**, by links and bell cranks, &c., from the main shaft **21**; the paper passes between the platen **17** and the type on the frame **11**.

The numbering and paging type are carried in sockets **4** on the intermediate links of a sprocket chain **2**, Fig. 6; the chain passes one or more times around axles **10** and **22** on the frame **11** to allow of a wide range of numbers. More than one chain may be used as shown by the dotted lines **2** and **26** in Fig. 4. The chains are fed one link at a time, by star-wheel gear on the axle **9**, so that each type makes a pause during its contact with the paper against the platen **17**. *7 litho. MS. pages,* 11 *claims; 2 fols. drgs., 7 figs.*

2727. 15 Mar. *Prov. only.*

J. Nicholson, 63 Elizabeth-street, Paddington, N.S.W., assayer, and S. G. Plucknett, Stratford Lodge, Petersham, N.S.W., company manager.

> "A mechanical process for the separation and recovery of gold and other minerals from slimes, kaolin, and such like saponaceous earthy matter and auriferous earthy formations."

Classes 10.8; 12.1.

2728. 15 Mar. *C.a.P.*, 6 Dec. *Lapsed.*

W. H. James, Lieut.-Col. R.E., Bushmead Hall, Bedford, Eng.

> "Improvements in or relating to the extraction of precious metals from their ores."

Class 14.5.

2729. 15 Mar. *Prov. only.*

G. Matthews, Orroroo, S.A., tinsmith.

> "An improved self-cleaning rain head and down pipe."

Class 83.1.

2730. 15 Mar. *C.a.P.* 14 Dec.

T. G. Graue, Gawler, S.A., saddler.

Adjustable hames.

Class 39.6.

Fig.1. 2730/05

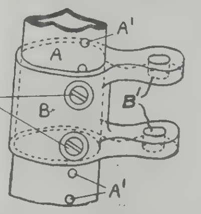
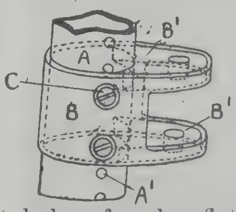


FIG.2.



To enable the point of traction to be adjusted vertically on the hames, the attachment is in the form of a sleeve **B** that may be moved on the tubular bar of the hame, and be fixed thereto by the set screws **C** in any of the countersunk holes $\mathbf{A}^1$; the trace hook is attached between the lugs by a pin passing through the holes $\mathbf{B}^1$.

Fig. 1 shows a solid stamping or forging; and Fig. 2 a construction consisting of a tubular ferrule, flattened to an oval and filled in with blocks at the pinhole.

Prov. 2 typed pages.
Comp. 3 typed pages, 3 claims; 1 fol. drg., 2 figs.

2731. 15 Mar. W. D. Quigley and J. H. Gay, Newark, New Jersey, U.S.A., engineers.

Spring roller for leather splitting.

Class 47.3.

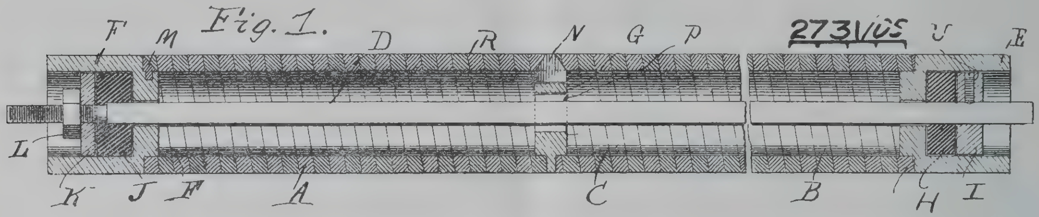


Fig. 1.

In leather splitting machines using hollow rolls with spiral wire surfaces, the coils are driven from the square inner rod **D** by circular discs at frequent intervals; each disc has an elongated slot **P** to allow displacement of the spiral surface without bending the rod; at alternate discs the slots are at right angles; each disc also carries a wedge key **N** fitting slots in the disc and in the ends of the spirals.

The end caps **F** are filled by rubber blocks **H**, and are keyed to the end spiral at **M**. The nut **L** adjusts the tightness of the spirals.

4 typed pages, 4 claims; 1 fol. drg., 5 figs.

2732. 15 Mar. G. G. Turri, Salisbury-building, 150 Queen-street, Melbourne, Vic., patent attorney (*agent of* J. Paterson, *act. inv.*, carpenter, and G. K. Pasley, *act. inv.*, accountant, Gisborne, N.Z.).

Seat or baggage rest for bicycles.

Classes 94.3; 94.9.

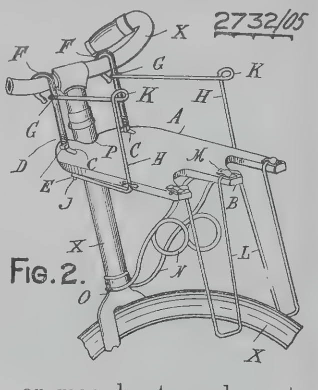


FIG. 2.

The base board **A** (with recessed front) is supported from the handle bar by hooked rods **F** having screwed lower ends that engage slots in the seat. Spring brackets **N** may be used beneath the seat.

The forked front of the seat carries wire loops **L** that may be used for foot rests in the position shown, or may be turned up to retain baggage on the seat.

Lateral wire brackets **H** may be used as arm rests as shown, the loops **K** being used for a retaining strap; or the side hooks may be unfastened, and the brackets be spread out to support larger articles.

5 typed pages, 4 claims; 1 fol. drg., 2 figs.

2733. 15 Mar. H. Garner, 22 Hospital-street, Nantwich, Cheshire, Eng., engineer.

Centrally attached anti-skidding tyres.

Class 97.89.

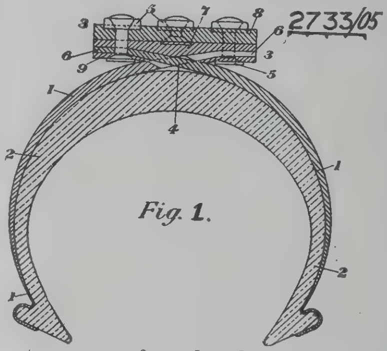


Fig. 1.

The outer circumference is a flexible tread band **8** having one or more central rows of studs **5**, riveted to this band only; there are also outer rows of studs which are riveted through inner layers attached to the pneumatic or other tyre.

Beneath the tread band, an inner band **7** prevents the inner heads of the central studs cutting the layer of attachments **6**, and further prevents puncturing.

The lower layer **6** consists of **T**-formed tabs on the edge of the main cover **1**, which are crossed and interlaced so that the tread band is flexibly attached by a central circumferential connexion. Modifications of this central attachment are also shown; the crossing may be covered by folded strips attached in the angle.

The studs are formed of hard steel ferrules **5** with countersunk holes, and are attached by soft metal rivets; the outer rows may be renewed without entirely replacing the tread band and attachments.

7 typed pages, 7 claims; 1 fol. drg., 7 figs.

2734. 16 Mar. H. L. Sulman and H. F. Kirkpatrick-Picard, 44 London Wall, London, Eng., metallurgists, and J. Ballot, 62 London Wall, London, Eng., merchant.

Preventing corrosion of apparatus by counter E.M.F.

Classes 07.6 ; 12.4 ; 14.7.

In flotation and other metallurgical operations using acid liquors, corrosion of metallic surfaces (particularly of iron or steel parts) is prevented by connecting the metallic parts to the negative pole of an electric source, and inserting a carbon positive pole in the liquid.

5 *typed pages*, 4 *claims. No drawing.*

2735. 16 Mar. *Prov. only.*

J. Chatham, Rokewood Junction, Vic., farmer.

"Improvements in adjustable belt fastenings usable as buckles generally."

Classes 39.7 ; 43.9.

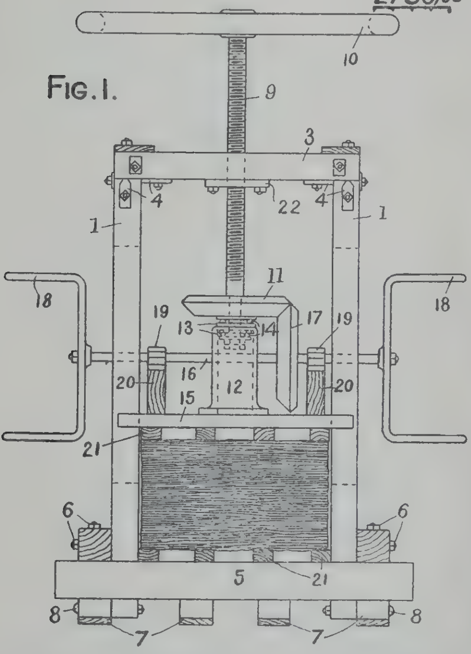
2736. 16 Mar. *C.a.P.* 14 Dec.

J. C. Stevens, Melbourne-street, East Maitland, N.S.W., coachbuilder.

Baling press, with bevel gear on the platen.

Classes 57.3 ; 60.8.

2736/05



This baling press for hay and the like, has a vertical screw **9** with an upper fly-wheel **10**, connected at its lower end by bevel gears **11** and **17** to a horizontal axle **16** having crank handles **18** at one or both ends.

The pedestal **12** has ball races of hard steel, with rings of balls both above and below a collar on the screw **9**, so that the rotating screw lifts the platen. The horizontal shaft turns in bearings **19** attached by pedestals **20** to the platen, so that it rises and falls therewith.

Prov. 2 *typed pages.*

Comp. 4 *typed pages*, 2 *claims ;* 2 *fols. drgs.*, 4 *figs.*

2737. 16 Mar. *Prov. only.*

T. H. Williams, 27 Booth-street, Golden-square, Bendigo, Vic., engineer.

"Improvements in and connected with tappets and other attachments for stamper shanks and shafting."

Class 10.3.

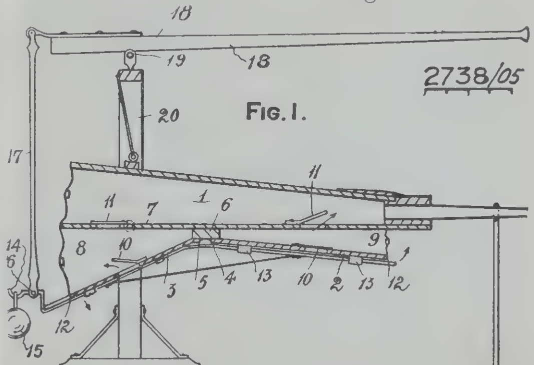
2738. 16 Mar. *C.a.P.* 16 Dec.

J. G. Porta, 153 George-street, Fitzroy Vic., manufacturer.

Triple forge bellows.

Class 69.4.

To give a continuous blast, the lower bag has two pumping chambers **8** and **9** which are arranged to deliver air alternately through the valves **11** to an equalizing chamber **1** ; the bottom boards **2** and **3** are hinged at **4** and **5** to the batten **6**, and are connected by the bent lever bar **12**, which is fixed to the bottom board **3**, and passes through guides **13** on the bottom board **2** ; the balance weight **15** is hung on the end of the bent bar.



Prov. 2 *typed pages.*

Comp. 3 *typed pages*, 2 *claims ;* 1 *fol. drg.*, 1 *fig.*

2739. 16 Mar. *C.a.P.* 26 Apr. *Lapsed.*

J. Main, Regent House, St. George's-court, Perth, W.A., mining investor, and G. Ratigan, Fire Brigade Station, Perth, W.A., electrician.

"An electrical semaphore apparatus and electric gong for signalling in connexion with racecourses and all classes of sports grounds."

Classes 53.3; 99.6.

2740. 16 Mar. *Prov. only.*

J. E. Harrison, 63 Victoria-road, Auburn, Vic., Baptist minister (*communicatee of* R. W. Shrewsbury, *act. inv.*, Me Lan, Siam, forest inspector).

"A single wheel vehicle for the carriage of logs and heavy goods and packages."

Classes 59.4; 96.1; 98.4.

2741. 16 Mar. *C.a.P.* 16 Dec. *Lapsed.*

Marian Borsa, "Newlyn," Dinsdale-street, Albert Park, Vic., married woman.

"An improvement in or connected with stockings."

Class 43.9.

2742. 16 Mar. G. McKean, Lima East, Vic., storekeeper, and T. Evans, Swan Pool, Vic., missionary.

Enclosed poison cartridges for small vermin.

Class 38.9.

To prevent the poisoning of domestic animals by loose poison, an enclosing cartridge is used having openings only large enough for the head of a mouse or rat as the case may be. The bait **C** is fixed in the middle of a tubular case **A**, so that the rat or mouse must place its head in the cavity to reach the poison **C**, but cannot drag it out; one end may be closed, and the exterior of the case may have a flat side.

Fig.3.

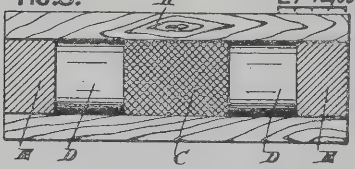
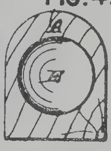


Fig.4.



5 typed pages, 1 claim; 1 fol. drg., 5 figs.

2743. 16 Mar. *Prov. only.*

C. Leech, Botany-street, Lower Kensington, Sydney, N.S.W., coachbuilder.

"Adjustable foot rest."

Class 93.2.

2744. 17 Mar. *Comp. lapsed.*

H. Maclachlan, *act. inv.*, Princess-street, Taringa, Qld., engineer, G. H. Cottell, *act. inv.*, Queen-street, Brisbane, Qld., licensed surveyor, and D. T. Seymour, *assignee*, Queensland Club, Brisbane, Qld., gentleman.

Central hook and shackle, supported from lateral buffers.

Class 96.3.

The weight of the coupling is supported by rods **C**, which bridge the space between brackets attached to the lateral buffer discs. Each drawbar **A** is connected by a loose shackle **B** to the main hook **E**, which is also fastened to the rod **C**; the hook forging has a coupling link **F** sufficiently long to drop over the opposing hook as in Fig. 2.

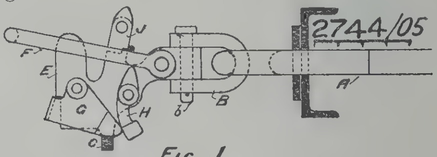


Fig. 1

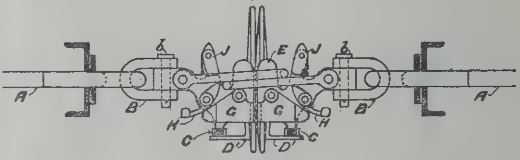


Fig. 2

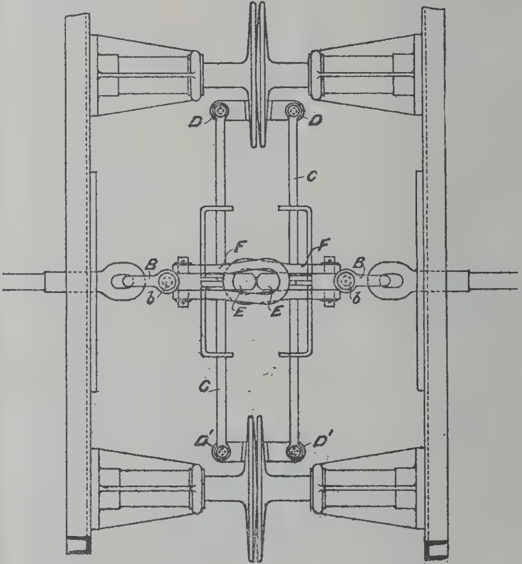


Fig 3

Before coupling the parts are adjusted as in Fig. 1; the link **F** is supported by the detent **H**, against which the trigger **G** rests; when the opposing vehicle comes in contact, the triggers

C make mutual contact and remove the detents **H**, allowing the shackles **F** to drop over the points of the hooks **E**; the detents **J** above the shackle **F** then fall and prevent the uncoupling of the shackle by lifting.

4 *typed pages*, 3 *claims*; 1 *fol. drg.*, 3 *figs.*

2745. 17 Mar. H. A. Jones and B. W. Mansell (The Patent Asphaltum Co. of N.S.W.), Druitt-street, Sydney, N.S.W.

"Arkilite" floors and roofs; marine glue joints, &c.

Classes 47.5; 81.4; 81.7.

To obviate leakage from contraction or cracks after changes of temperature, the "Arkilite" (N.S.W. 8111/98) is laid in sections about an inch thick and six to eight feet wide, with quarter-inch partings that are afterwards filled with marine glue or other suitable elastic composition.

As a precautionary measure, a foundation of half-an-inch of Trinidad asphalt, below three or four inches of concrete, is laid under the "arkilite."

4 *typed pages*, 4 *claims*. *No drawing.*

2746. 17 Mar. H. M. Sciple and M. L. Ross, 27 Chancery-lane, London, Eng., engineers,

Sand composition and moulding machines for helical articles.

Classes 70.2; 72.9; 78.3.

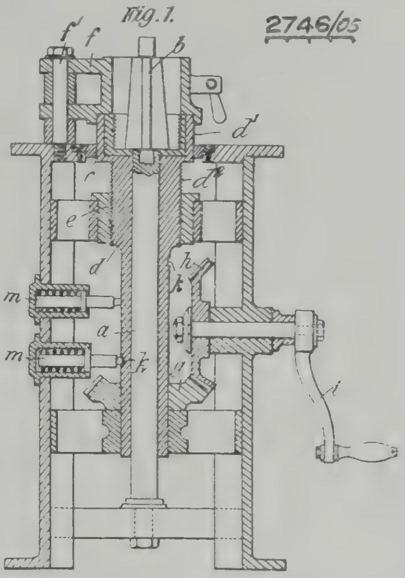
The following moulding composition does not require venting, and produces castings having uniform edges, &c. :—

Ordinary moulding sand	... 10	bushels.
Boiled linseed oil	... 1·5	gallons.
Gasolene, sp. gr. 0·72	... 1	pint.

The sand is used in the ordinary manner in machines having the screwed or helical part of the mould concentrically attached to stems with guide collars of the same pitch, so that after tapping the mould is drawn by rotating the stem.

In Fig. 1, **d1** is a core-box having an internal screw **c**, mounted on the tubular stem **d** sliding outside the fixed pillar **a**; the stem **d** has a guide screw at **d2** working in the frame nut **e**; the stem is rotated by the bevel gear **g**, **h**, and its extent of motion is limited or indicated by the spring detents **m**. Above the core-box is a core print mould **f** hinged on a side pillar **f1**; a ribbed central support **b** holds the screwed part of the core against rotation.

In a modification, screws may be moulded in groups arranged in a circle around a central axis so as to be drawn simultaneously.



7 *typed pages*, 1 *claim*; 1 *fol. drg.*, 3 *figs.*

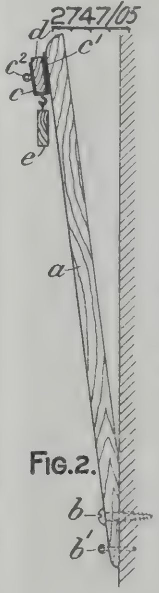


FIG.2.

2747. 17 Mar. G. Barnes, Berry-street, North Sydney, N.S.W., inventor.

Laterally swinging frames for lowering curtains, &c.

Classes 46.6; 78.8.

A curtain pole **e** is suspended from a cross bar **d** attached by pivots **c2** at each end to uprights **a**, which are pivoted at their lower ends on screws **b**, one on each side of a window frame, so that they can be rotated laterally to lower the curtains; the frames are retained in an upright position by steady pins **b1**.

Alternatively the pole **e** may be omitted, and the curtains hung direct to the cross bar **d**.

3 *typed pages*, 2 *claims*; 1 *fol. drg.*, 2 *figs.*

2748. 17 Mar. *Prov. only.*

G. Barnes, Berry-street, N. Sydney, N.S.W., inventor.

"An improved device for suspending window curtains and the like."

Class 46.6.

2749. 17 Mar. *Prov. only.*

R. and W. Curry, 47 Druitt-street, Sydney, N.S.W., engineers.

> "Improvements in the construction of piston controlling valves for hydraulic lifts and the like."

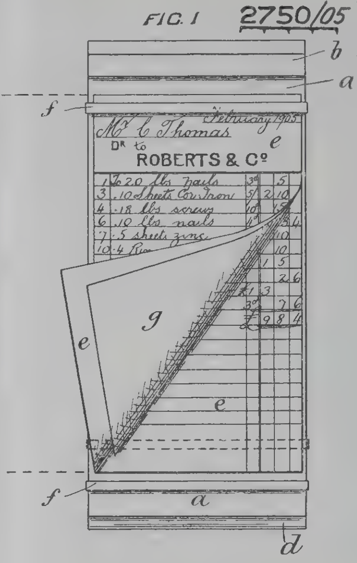
Classes 65.1; 74.7.

2750. 17 Mar. A. Hopwood, Palmerston North, N.Z., ironmonger.

Support for manifolding sale-notes, invoices, &c.

Classes 48.8; 54.5.

FIG. I 2750/05



The back piece is a metal strip, the top end being folded at **b** to provide a flat end face **c** on which the client's name may be repeated. The account form **e** is in duplicate with a carbon sheet and is held on the back piece by rubber bands **f**.

A collection of these supports or holders may be stored vertically in a box or case with the names visible at the top; items of sales may be added on successive dates, and at the end of a period one sheet may be sent as a statement to the customer, without waiting for the posting of the whole accounts into a ledger, or without the delay and uncertainty of picking out scattered items in a day book.

3 typed pages, 2 claims; 1 fol. drg., 3 figs.

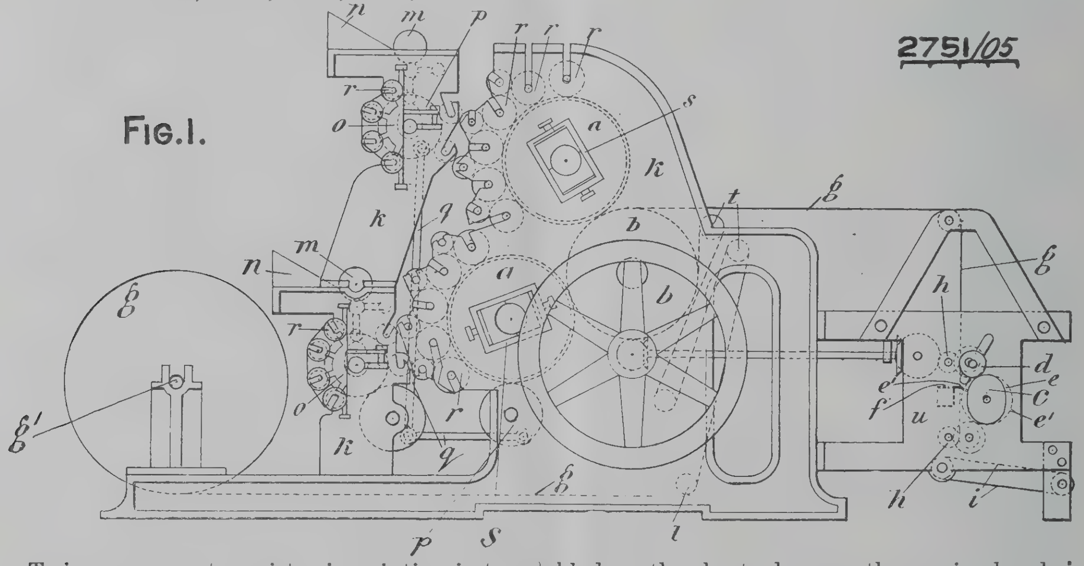
2751. 17 Mar. *C.a.P.* 16 Dec.

P. S. Renn, 123 Brunswick-street, Fitzroy, Vic., machinist.

Two-colour press and cutting machine for bags, &c.

Classes 48.3; 50.8; 51.4; 57.1; 60.2.

Fig.1. 2751/05



To insure accurate register in printing in two colours bags, advertisements, &c., from a web **g** which is afterwards cut into lengths, the web **g** from the roll **g1** is led over tensioning rollers **t** to an impression roller **b** against which two type rollers **a**, **a** operate, having independent inking rollers **r**, **r** with eccentric gears **o**, **o**.

The web **g** from **b** is led to a cutting frame **u** bolted to the right hand end of the press in which the paper is strained by guide rollers **h**, **h** against a fixed knife **f** and cut by revolving drum **e** (dotted circle) having hollow curved blades; the sheets drop on the carrier bands **i**.

The oval gear **c**, **d** gives a fast motion to the knives at the cutting point.

Prov. 2 *typed pages.*

Comp. 3 *tpd. pages,* 3 *claims;* 3 *fols. drgs.,* 4 *figs.*

2752. 17 Mar. *C.a.P.* 16 Dec. *Abandoned.*

Bessie Hancock, 32 Byron-street, St. Kilda, Vic., spinster.

"A mixture for automatically closing punctures in pneumatic tyres and the like."

Class 97.87.

2753. 17 Mar. *C.a.P.* 27 Apr.

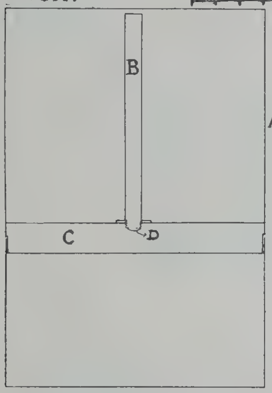
J. Kite, Stafford-street, Midland Junction, W.A., polisher.

Boiler composition and percolation filter.

Classes 28.1; 83.1.

For removing scale from boilers put 16 oz. washing sôda, 4 oz. borax, and 1 oz. caustic soda into the feed tank daily. For domestic water supply omit the caustic and put a spoonful in the tank **A**; the water percolates down the perforated tube **B** containing limestone, and through the box **C** filled with coke into the reservoir below.

Fig. 1. 2753/05



Prov. 2 *MS. pages*; 1 *fol. drg.*, 2 *figs.*
Comp. 4 *MS. pages*, 2 *claims*; 1 *fol. drg.*, 2 *figs.*

2754. 17 Mar. *Prov. only.*

A. V. Sorenson, 10 Howard-street, Fremantle, W.A., manufacturer.

"A new match stem."

Class 20.8.

2755. 17 Mar. *C.a.P.* 28 Apr.

H. J. Bentley, 10 Knebworth-avenue, Bulwer-street, Perth, W.A., commercial traveller.

Spring latch for kerosene pumps.

Classes 22.4; 58.4.

The wire is soldered to the barrel **a** at its semicircular band **e**. The elastic coils **d** press the serrations **g** against the edge of the opening in the can and holds the stop **j** on the pump barrel in the proper position.

2755/05

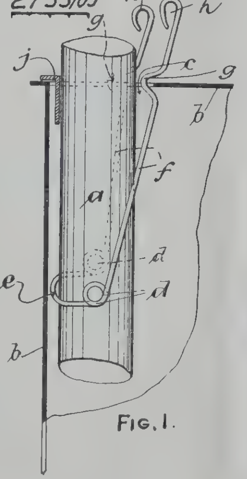


Fig. 1.

Prov. 3 *typed pages*, 1 *fol. drg.*, 1 *fig.*
Comp. 3 *typed pages*, 3 *claims.*

2756. 17 Mar. *Prov. only.*

G. Robertson, Austral Chambers, Barrack-street, Perth, W.A., contractor.

"Renewable sanitary cover for closet seats"

Class 86.8.

2757. 17 Mar. *C.a.P.* 1 Dec.

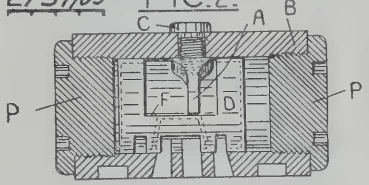
J. B. Marshall, Wyman-street, Broken Hill, N.S.W., engineer.

Hollow piston valve for rock drills.

Classes 65.9; 85.4.

To reduce weight and leakage, and improve the guiding; the cylindrical valve **D** is built up from a tube from which all non-essential parts are cut away; the ends are closed by discs, and the exhaust port is covered by a bridge piece **F** which also forms a flat bed for the guiding yoke **A**, which is fixed to the valve cylinder by the screw **C**.

2757/05 FIG. 2.



Prov. 4 *typed pages.*
Comp. 6 *typed pages*, 5 *claims*; 1 *fol. drg.*, 3 *figs*

2758. 17 Mar. *Prov. only.*

G. W. D. Hamilton, insurance agent, and J. de La Hunty, gentleman, 313 Argyle-street, Hobart, Tas.

"Automatic rabbit trap."

Class 38.6.

2759. 17 Mar. *Prov. only.*

H. C. Browne, Park-avenue, Burwood, Sydney, N.S.W., station manager.

"A multiple wood post drilling machine."

Class 81.8.

2760. 18 Mar. *C.a.P.* 2 Aug. *Lapsed.*

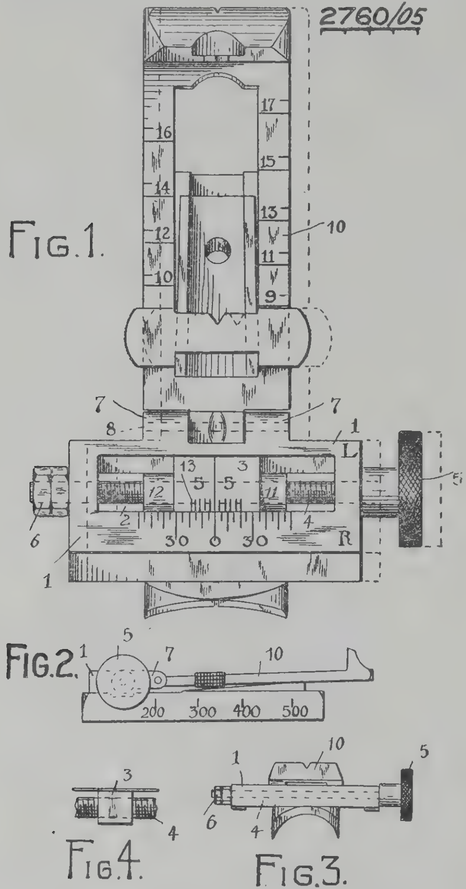
W. H. Watson, 56 Kerferd-road, Albert Park, Vic., meter inspector.

Wind gauge for rifles.

Class 89.5.

This gauge is for use in connexion with the ordinary ladder of a service rifle.

The service ladder **10** is removed from the rifle and hinged to a rectangular metal frame **1** by the service hinge-pin **8**. A nut-block **3** carrying a vernier scale **13**, fits between the service hinge lugs **11, 12**; the frame and ladder are adjusted for right or left wind by the screw **4**, which successively passes through the frame, lugs **11, 12** (as guides), and the nut-block **3**, and is secured by usual lock-nuts **6**. On the rear edge of the slot in frame the windage graduation is engraved to correspond with the vernier scale.



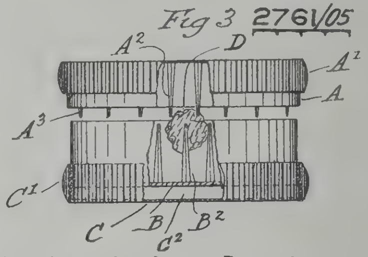
Prov. 3 *typed pages.*
Comp. 4 *typed pages,* 3 *claims;* 1 *fol. drg.,* 4 *figs.*

2761. 18 Mar. W. H. Wingfield, Boort, Vic., storekeeper, and J. Balding, Boort, Vic., miller.

Tobacco box; rotary tearing or shredding teeth.

Classes 10.7; 33.5.

Disintegrating pins **A2** project downwards from the lid **A**, and others, **B2**, project upwards from the base **B**; on rotating the lid when closed the piece of tobacco **D** inside is shredded and may collect in the part **B**; in Fig. 3 an extra lower lid **c1** is shown into which the shreds pass through holes in the base **B**.



5 *typed pages,* 5 *claims;* 1 *fol. drg.,* 3 *figs.*

2762. 18 Mar. *Prov. abandoned.*

J. Arundel, Post Office, Smith-street, Collingwood, Vic., postmaster.

"A wax and twine saver combined with improved reversible mail label."

Class 54.3.

2763. 20 Mar. *C.a.P.* 20 July.

W. H. Hussey, King William-street, Adelaide, S.A., mining agent.

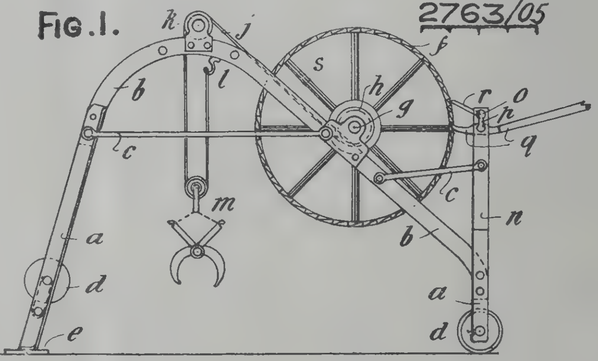
Tripod stump jack with ratchet winch and tackle.

Classes 30.2; 59.1.

A tripod stand **b** can be transported (to a stump) on wheels **d**, two of which (on the left) may then be folded up so that the frame rests on the feet **e**.

The stump or snag is gripped by the claws **M**, the slack rope wound up by the handle **s**; when the rope is taut increased power is obtained by the lever **q**, double ratchets engaging the wheel rim **f**.

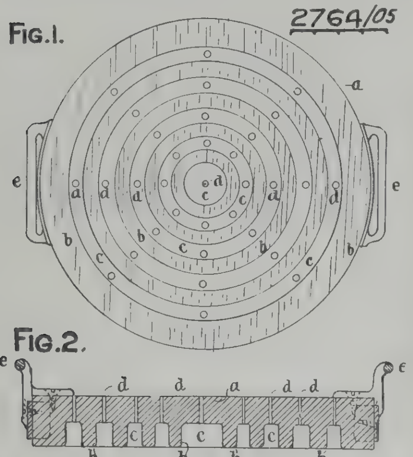
A modified frame is also shown.



Prov. 3 *typed pages.*
Comp. 6 *typed pages,* 4 *claims;* 1 *fol. drg.,* 4 *figs.*

2764. 20 Mar. E. L. Evens, Clifton-street, Malvern, S.A., inventor.

Laundry dolley or washing board.
Class 25.2.



The underside of the body **a** has a series of annular ribs **b** and **c** with alternating rows of air holes **d**. Lateral handles **e** may be used for the beating action, or the reversed implement may be used as a washing board.

A modification has a ribbed surface of sheet metal.

4 *typed pages*, 3 *claims*; 1 *fol. drg.*, 4 *figs.*

2765. 20 Mar. *Prov. only.*

P. McIlveney, Devonport, Auckland, N.Z., engineer.

"An electric line or road junction regulator, to be worked automatically or by hand."

Classes 03.4; 98.2.

2766. 20 Mar. *Prov. only.*

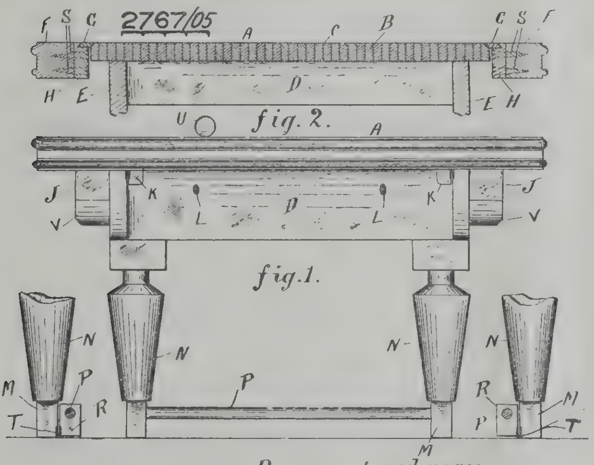
G. S. Budge, Devonport, Auckland, N.Z., engineer.

"An improved starting barrier for horse and other racing."

Class 53.3.

2767. 20 Mar. *C.a.P.* 7 Aug.

J. A. Walker, Devonport, Auckland, N.Z., timber miller.



Combined billiard and dining table.
Classes 45.3; 53.6.

The cushions **C** (which are attached to the edge of a rectangular frame **F** surrounding the plane table **A**) may be lifted from the position shown as for dining and supported in the playing position by turning up the hinged blocks **K** (Fig. 1) on the end bearers; the whole frame may be similarly raised to a convenient height for play by folding the hinged feet **R** into position below the short ends **M** that are used for the game.

Channels **J** are provided at the sides for conveying the balls from the pockets to the ends of the table.

Prov. 3 *typed pages.*
Comp. 7 *typed pages*, 7 *claims*; 3 *fols. drgs.*, 12 *figs.*

2768. 20 Mar. *Prov. only.*

R. Gray, Morialta-street, Adelaide, S.A., manufacturer (*assignee of* D. Laurie, *act. inv.*, Flinders-street, Adelaide, S.A., ironworker).

"Improvements in and relating to gas-heated hot-water shower baths."

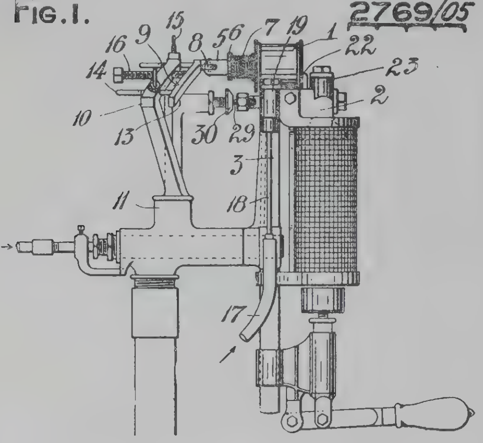
Class 24.5.

2769. 20 Mar. A. J. L. Eckersley, 214 Queen-street, Melbourne, Vic., chemist.

Syrup pump operated by adjustable cam-bar.
Class 27.5.

The piston of the syrup pump **1** is drawn out on the suction stroke by the spring **7** coiled around the external piston rod; on swinging the bottling machine the roller **8** moves against the inclined cam-bar **13** and forces the syrup into the bottle just prior to the contact of the gas valve stem **29** with the button **30**.

FIG. I.



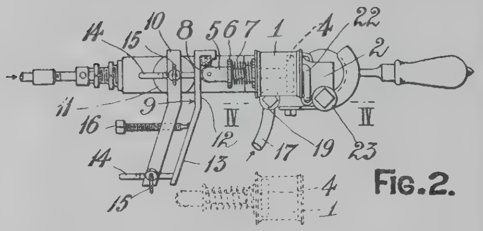


FIG. 2.

The cam-bar **13** is adjusted forwards to regulate the amount of syrup, by means of the adjusting screw **16** and the holding rods **14**; for unsweetened liquors the plate is slacked back out of range.

5 *typed pages*, 2 *claims*; 2 *fols. drgs.*, 6 *figs.*

2770. 20 Mar. *Comp. lapsed.*

E. W. Warren, 46 Berry-street, East Melbourne, Vic., commercial traveller.

"An improved combination washing board."

Class 25.2.

2771. 20 Mar. *Prov. only.*

G. H. Hannington, Mary-street, Gympie, Qld., watchmaker.

"Improvements in tuning pegs and the like for musical instruments."

Class 01.3.

2772. 20 Mar. *Prov. only.*

S. Vaughan, 183 William-street, Darlinghurst, N.S.W.

"An envelope which cannot be opened without tearing or destroying."

Class 49.3.

2773. 21 Mar. Empire Oil Engine Synd. Ltd., 34 Great St. Helens, London, Eng., manufacturers (*assignees of* J. Clay, *act. inv.*)

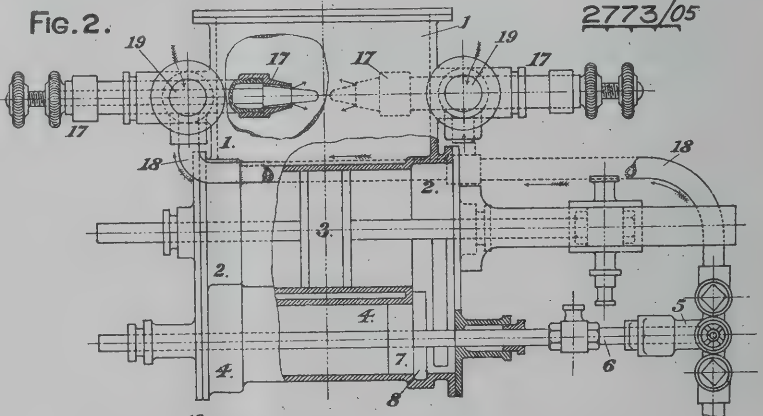
Vaporizing and separating volatile oils from heavy oils, &c.

Classes 21.3; 23.7; 28.6; 66.5; 68.9.

Crude oil is sucked with air (by a pump **2, 4**) into a mixing chamber **1**; there may be a pair of conical spraying nozzles **17, 17**, or one nozzle may be replaced by a fixed cone.

The mixed air, vapour, and heavy spray is passed into the tubular heater **11**, in which the hot exhaust from the gas engine is circulated through pipes **14, 12, 15**. Any unvaporized part that settles in the heater may be drawn off.

FIG. 2.



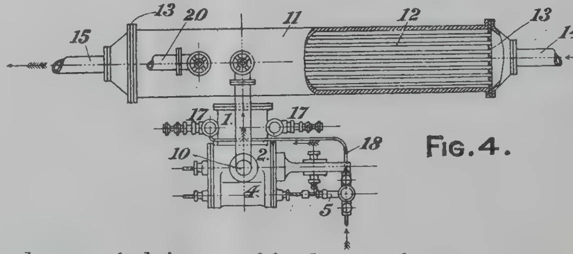


FIG. 4.

5 *typed pages*, 6 *claims*; 2 *fols. drgs.*, 4 *figs.*

2774. 20 Mar. *Prov. only.*
C. Morrow, Hudson-road, Spottiswoode, Melbourne, Vic., railway employé.

"An improved rubber cap for boot heels."

Class 44.3.

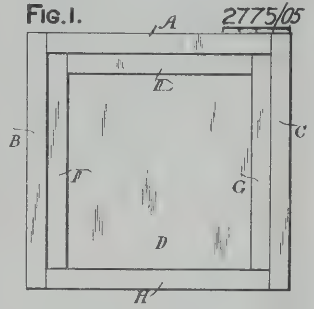
2775. 21 Mar. F. C. Baggeson, 82 William-street, Melbourne, Vic., shipping providore.

Airtight butter box; rebated joints.
Class 57.2.

Each of the six boards **A**, **B**, **C**, **D**, &c., is rebated on all four edges, so that they fit together in pairs, and may be nailed or screwed together; in Fig. 1 the cover board and the side board over **H** are removed.

The construction enables the airtight joint (on which tapes or fabric may be placed when necessary) to be extended over three faces, instead of one face as in an ordinary packing case.

Fig. 1.



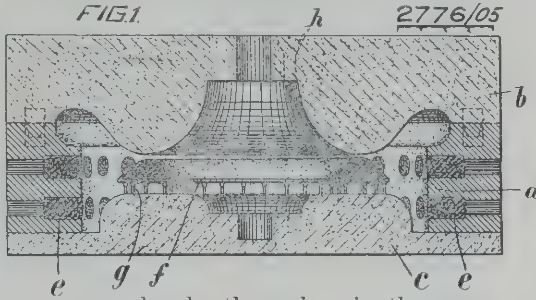
3 *typed pages*, 2 *claims*; 1 *fol. drg.*, 3 *figs.*

2776. 21 Mar. R. S. Logan, 94 McGill-street, Montreal, Quebec, Canada, railway assistant (*assignee of* F. Cowden, *act. inv.*, 94 Farard-street, Montreal, Canada).

Modifying chilled castings.
Classes 70.2; 97.2.

Articles such as toothed gearing, car wheels, parts of permanent way, &c., are made of cast steel with hardened surfaces by altering the composition of the steel at the requisite regions during the process of casting. The mould, say for casting a car wheel, has a chill **d**, formed with a series of apertures or recesses **e**, as one of the walls. After the mould is made, a destructible annular tray **f** of sufficient size to hold piled upon it the requisite quantity of dry pulverized manganese is placed upon fusible pins **g**. The apertures in the chill are filled with coke and sand damped with molasses water, and the chill is washed with a thin composition of manganese, coke, and molasses water. The metal is poured in at the gate **h**, and on coming in contact with the tray, destroys the latter and sweeps on the manganese, which it gradually absorbs, in front of it, only the front part of the steel thus becoming altered in composition. The molten metal containing the manganese absorbs the carbon in the recesses, and in this way the outside portion of the casting becomes tougher and harder than the remainder.

FIG.1.



10 *typed pages*, 14 *claims*; 1 *fol. drg.*, 3 *figs.*

2777. 21 Mar. E. L. Oliver, Oakland, Alameda, Cal., U.S.A., mining engineer.

Electro-amalgamation of cyanide liquors.
Classes 07.6; 13.9; 14.4; 14.7.

A circular tank **A** with a conical bottom has a central pipe **D** open at the top. The lower end of the pipe is fitted into a casting **d** with side openings **d1**, the discharge pipe **B** with valve **b**, and a central air pipe **C**. Compressed air for agitation enters through the bottom discharge of the tank and rises into the central pipe **D**.

In the upper part of the tank a large number of electrodes **E** are fixed in a vertical position; the cathodes are amalgamated copper plates, and the anodes are iron plates held in grooves on wooden boards **I**.

Insulated troughs **L** containing a copper bar and mercury **N** are connected to the cathodes which are thus automatically supplied with mercury by capillary creeping.

The insulation and electrical connexions are fully illustrated.

8 *typed pages*, 7 *claims*; 2 *fols. drgs.*, 6 *figs.*
(For drawings see next page.)

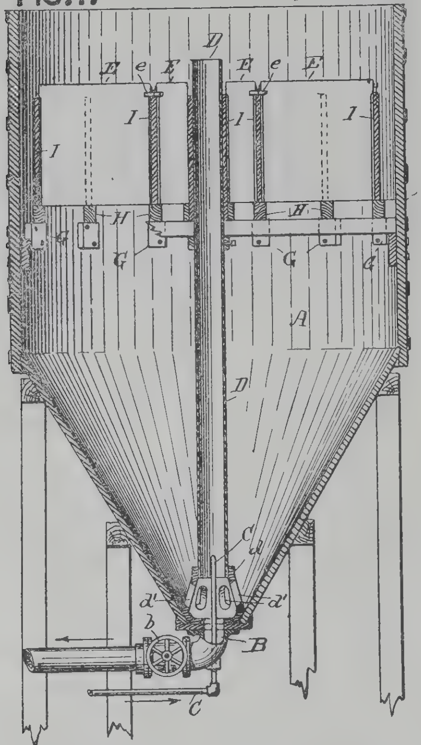
2778. 21 Mar. F. H. Brenton, 601 Wyoming-avenue, West Pittston, Penn., U.S.A., salesman, and J. Struthers, Montgomery-street, West Pittston, Penn., U.S.A., builder.

Slabbing or cribbing for deep excavations.
Classes 85.1; 87.9.

The lateral horizontal planks **1** have vertical transverse metal straps **3**, with hooks **4** at the

2777/05

FIG. 1.



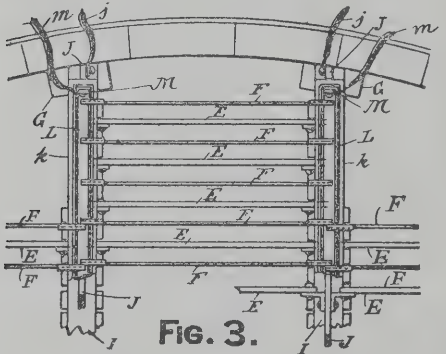


FIG. 3.

(**2778** *continued from previous page.*)

lower ends, which engage eyes **5** on the upper ends of the straps on the next lower row of planks; each plank also carries attached dovetail or T-grooved boxes **7**, to receive the ends of stretchers **2** to hold the side planks at the proper distance.

The top row of planks has brackets **6** which rest on the surface, and each stretcher has a projecting plate **10** at the end to prevent it slipping through the T-groove.

The planks may have inclined or louvred joints to prevent earth falling through. The stretchers may be half the depth of a plank, with a piece hinged for folding to close the gap.

2778/05

Fig. 1.

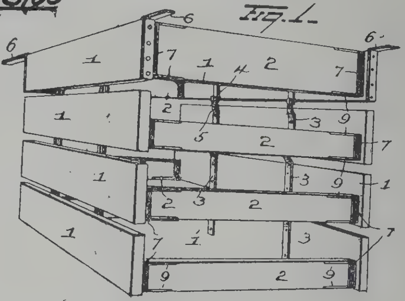
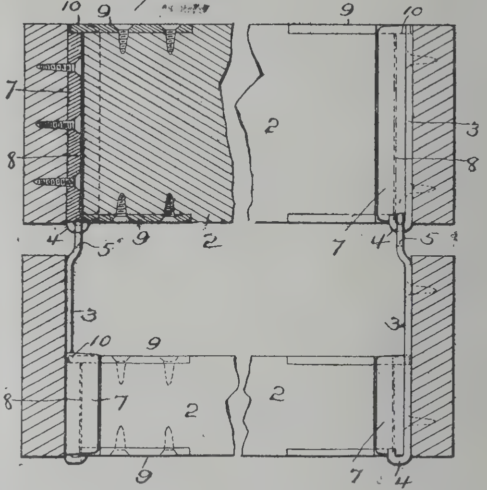


Fig. 2.



2778/05

Fig. 3.

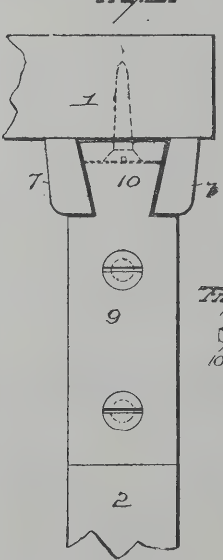


Fig. 4.

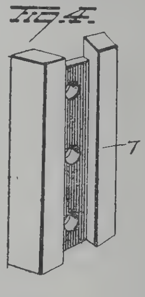
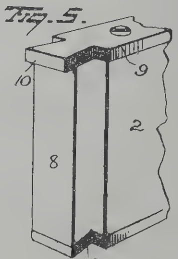


Fig. 5.



8 *typed pages*, 11 *claims*; 3 *fols. drg.*, 11 *figs.*

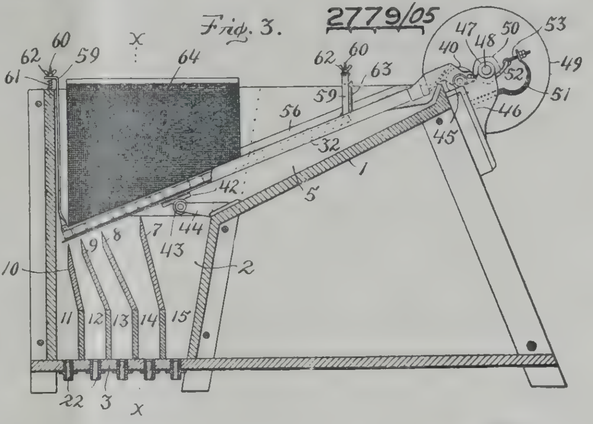
2779. 21 Mar. *Comp. lapsed.*
E. Deister, 1415 Webster-street, Fort Wayne, Ind., U.S.A., mechanic.

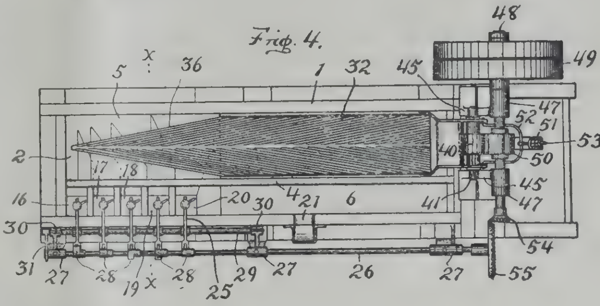
Submerged shaking riffle board or pan.
Classes 11.4 ; 12.1.

A concentrating board or pan **32**, having riffles **34**, conveying towards a central channel **35**, is reciprocated with its concentrating surface beneath the water at one side of a tank **1**, which is divided longitudinally by a partition **4**. The ore is fed on the board above the screen **63**, and values collect in and are discharged from the central longitudinal channel between the riffles **34** into the compartment **11**, while the gangue passes over the edges **36** and falls into several grading compartments **12** to **15**, and is intermittently discharged through the spouts **22**, over each of which is a valve operated by rod and cam on the shaft **26**.

Stationary V-shaped diverting blades **57**, secured to a frame **58** above the riffles in the pan **32**, are used to divert overlying ore matter towards the sides of the pan; **64** is a diffusion box covered with burlap, &c., into which the feed water is supplied to maintain the level with as little disturbance as possible.

13 *typed pages*, 8 *claims*; 3 *fols. drgs.*, 8 *figs.*



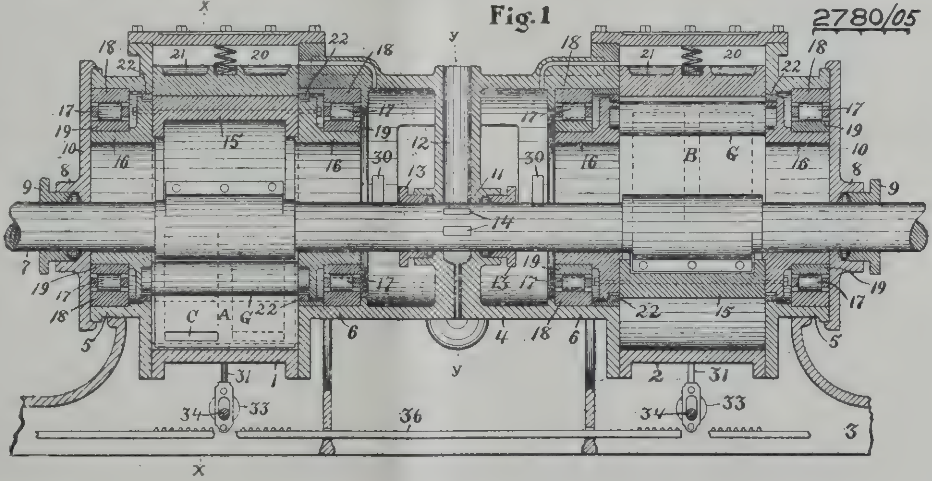


2780. 21 Mar. *Comp. lapsed.*
H. B. Walda, 1119 East Washington-street, Fort Wayne, Ind., U.S.A., carpenter.

Duplex crescent motor; axial valves.
Class 67.7.

This duplex engine has radial pistons **A**, **B** in each part, which slide through packed gaps in the eccentric drums **15**, **15**, and are keyed to the hollow main shaft **7**; the steam is admitted to the shaft by ports **14** (which open into a central steam chamber between stuffing-boxes **13**, **13**) and enters the crescent chambers through passages in the pistons which open on opposite sides of the piston for reversing.

Fig. 1



Inside the hollow shaft are tubular liners which may be moved longitudinally to close one or other of the ports, according to the direction of motion desired; exhaust ports are also provided in the outer drum at both sides of the abutment, one or the other of which is closed by lift valves coupled by racks to the longitudinal gear. The inner tube may rotate in the outer liner to adjust the cut-off by varying the effective width of the port past which the inner end of the radial passages must move.

The eccentric drums **15** have large trunnions **16** which rotate on rings of rollers **17** inside the outer drum; the abutment blocks **20** slide vertically in closed chambers, and are spring-pressed against the rotating inner drum.

16 *typed pages*, 7 *claims*; 3 *fols. drgs.*, 7 *figs.*

2781. 21 Mar. *C.a.P.* 28 Nov.

UNITED SHOE MACHINERY CO., 205 Lincoln-street, Boston, Mass., U.S.A., *assignees of* L. A. CASGRAIN, *act. inv.*, Winchester, Middlesex, Mass., U.S.A., inventor).

Work-horn for boot pegging machine. Class 44.5.

The mechanism for operating the work-supporting horn **28** is developed from N.S.W. 7705/97.

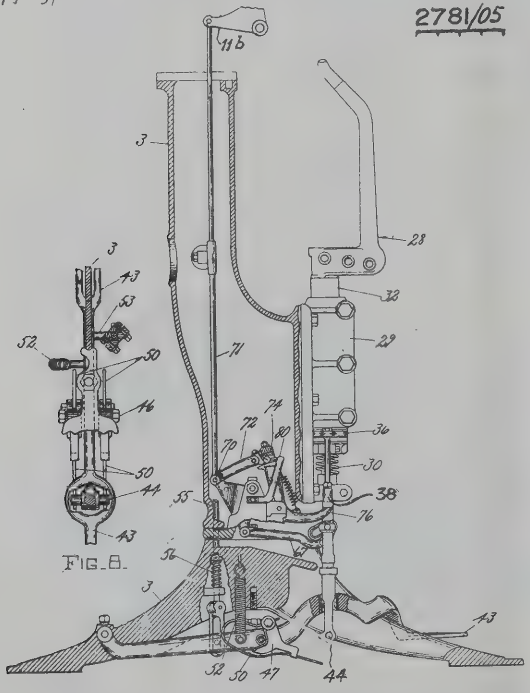


FIG_8.

FIG_4.

The horn **28**, Fig. 4, can rotate freely, and also slide vertically in the split sleeve **29**; it is balanced in a depressed position by the spring **30** inside the horn shanked end, which rotates in the ball bearing collar **36**, bolted to the horn actuating yoke **38**, which slides in grooves in the machine frame and terminates in a rod passing through the treadle **43**, which is normally lifted by the spring **52**. Attached to the frame by the pivot **46**, Fig. 8, are two levers **47**, one on each side of the treadle, having wire springs **50**, which, on depressing the treadle, are caused by the roller **51** to contact with the pin **44** and lift the supporting horn, with a light yielding pressure, against the work while it is being perforated and fed laterally by the awl; at the same time the treadle pulls down the rod **55** (against the resistance of the spring **56**) to operate the friction clutch and driving pulley.

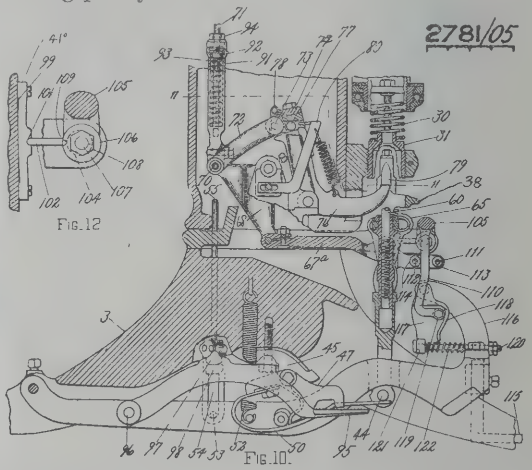


FIG.12

FIG.10.

Meanwhile the rod **71** is moved downward by the cam-operated bell crank **11b**, swinging the bell crank **68**, Fig. 10, and by the connecting link **72** swinging the double-armed lever **74** on the pin **75**; a bell crank **76** also oscillates between the arms of **74**, on the vertical arm of which rolls the clutch roller **77**, pressed to engage in the narrow part of the recess between the members **74** and **76** by the spring **78**.

The front arm of the bell crank **76** is forked so as to engage with lugs **79**, one on each side of the sliding yoke **38**, thereby lifting and locking the horn **28** against the work with positive pressure; as the clutch roller **77** swings forward between the levers it comes into contact with the adjustable stop **80**, and is thrown back towards the wider end of the recess, disengaging the bell crank **76** from the lever **74**.

The cutters are operated by the rod **60**, Fig. 10, passing axially through the horn shank; it is moved upward by a cam groove in the swinging actuators **65** engaging with cam rollers **63** attached to the rotatable sleeve **62**; the actuators are swung at the moment the peg is driven by the link **67** and the bell crank **68**.

If it is desired to operate the machine without raising the horn, an auxiliary treadle **95**, Fig. 10, is provided, which has a lug **97** engaging the lug **98** on the link **54** and depresses the tripper on the machine head.

The construction as shown in Figs. 10 and 12 also includes an additional clamping action for the horn, which is operated by the cutter actuating link **67a**, having rollers **113** and **114**, which engage with the lever **110** on the cranked rockshaft **105**, causing toggle plates **102** to bend the plates **41a** inward, and jam yoke **38** in its slide-ways. The toggle clamps are released by the upward movement of the treadle by the arm **116** and cam plate **117** engaging a roller on the end of the lever **110**.

Prov. 23 *typed pages.*

Comp. 24 *typd. pages*, 8 *cls*; 5 *fols. drgs.*, 12 *figs.*

2782. 21 Mar. *C.a.P.* 7 Dec.

United Shoe Machinery Co., 205 Lincoln-street, Boston, Mass., U.S.A. (*assignees of* L. W. G. Flynt, *act. inv.*, Rochester, Monroe, New York, U.S.A., machinist).

Punching linear ornaments; spacing devices

Classes 44.5; 47.3.

In producing linear punched ornaments by punches driven in the manner of a sewing machine needle, the spacing of the holes is liable to vary in the straight and curved portions, owing to the presser foot being used as the fulcrum of curvature.

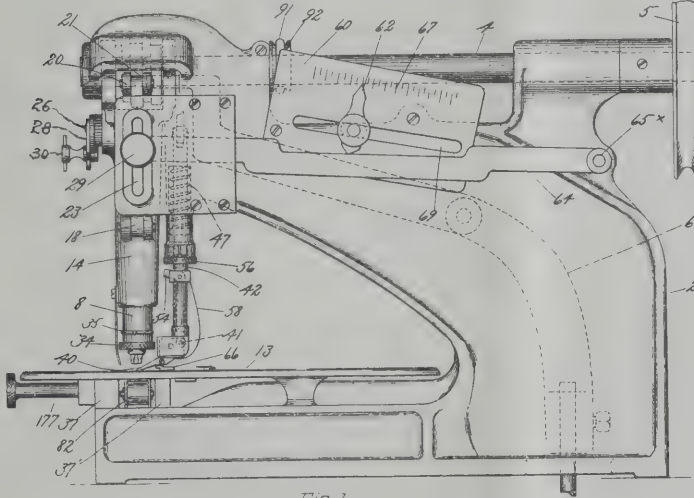


Fig. 1.

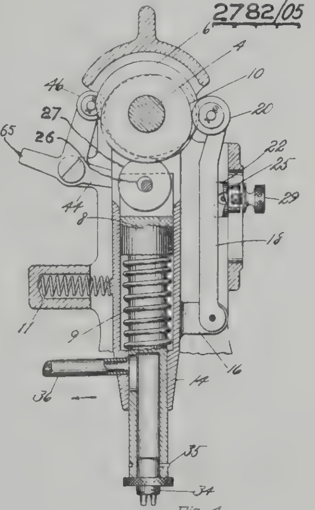


Fig. 4.

In this machine, the punch guide **14**, Fig. 4, is a tube swinging on the cam axle **4**, and held towards the right hand in Fig. 4 by the spring **11**; at each revolution the guide swings to the left hand (while the punch is engaged in the material) for a feed distance that is varied by adjusting the position of the fulcrum block **29** of the cam lever **18**; a fine adjustment for **29** is provided in the diagonal scale **47**, Fig. 1, and auxiliary lever **64**.

The presser foot (Figs. 1 and 6) is carried on a bar **42** which is operated by spring and cam-lever in a vertical fixed guide on the frame. The foot **40** moves transversely to the line of ornament, and is hinged to a block **43** on the lower end of the bent lever **50**; when the bar **42** is raised, the top arm **54** of **50** contacts with the adjustable collar **56**, and the presser foot is drawn back. The foot touches the work at a point midway of the extreme feed stroke of the punch, and must therefore be retracted laterally to allow the punch to pass at its forward stroke, but on the back stroke the punch passes above the presser foot; thus the motion of the work on curved lines is either around the punch as a fulcrum, or around the toe of the presser foot, which is then at a position where the rotation of the work will not affect the pitch of the perforations.

The punch block has a curved surface concentric with the main shaft; to prevent the punch from coming in contact with this metallic surface a strip of non-metallic flexible material is interposed beneath the work and is engaged by the punch and fed with the work, the slack being wound on the receiving spool **89** by the very light friction clutch **93**, Fig. 8, which will only move the ribbon when assisted by the punch. The strip **72** passes through a flattened tube-guide under the machine, around the guide roller **82**, Fig. 1, back under the table **13** but over the punch block, to the receiving spool; to bring different portions of the width of the strip under the punch the guides can be moved by the adjusting screw **177**.

Prov. 9 *typed pages.*

Comp. 22 *typed pages*, 25 *claims;* 4 *fols. drys.*, 12 *figs.*

2782/05

Fig. 8.

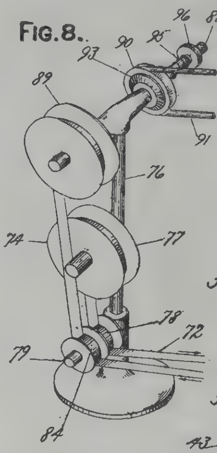
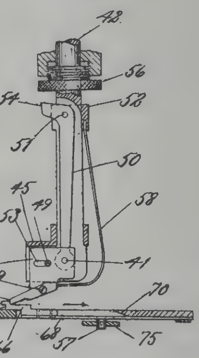


Fig. 6.



2783. 21 Mar. *C.a.P.* 28 Nov.

United Shoe Machinery Co., 205 Lincoln-street, Boston, Mass., U.S.A., shoe machinery manufacturers (*assignees of* E. E. Winkley, *act. inv.*, Lynn, Essex, Mass., U.S.A., mechanical engineer).

Disengaging presser foot for welt sewing. Classes 42.7; 44.5.

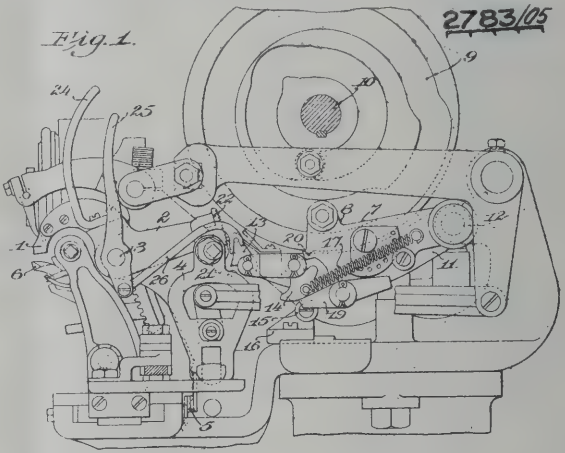
The presser foot mechanism is of the pincers type, the jaw **6** being fixed to the frame as a work support, and the upper movable jaw or presser foot **1** (on a curved lever **2**) is normally depressed by a light spring **5** under the inner end of the lever, through a link device **4** (detailed in G.B. 7793/92). Fig. 2 shows the presser-foot action apart from the assemblage in Fig. 1.

A segment rack 22 on the inner end of **2** is engaged prior to each stitch by a detent **13** on the end of the lever **11**, parallel to which a lever **7** has a roller **8** in the cam-groove **9**.

The lever **11** is normally raised by a swinging cam **14** (which is pulled by the spring **17** against a fixed roller **15**) until the cam **14** blocks against the stop **20** on the lever **11**, as shown in Fig. 2. When the lever **11** rises in the cam groove, the lever **7** follows it, the detent **13** rises from the stop-pin **21** and engages the rack **22**, and further pressure is put on the foot **1** by the spring **17** and cam **14**. At the highest stroke of the lever **11**, the arm **19** (attached to **11**, and adjustable by the curved wedge **23**) comes in contact with the cam **14**, as shown in Fig. 1, and firmly clamps the work in the jaws during the formation of the stitch.

2783/05

Fig. 1.



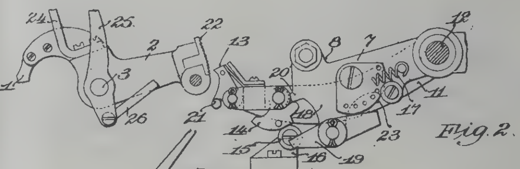
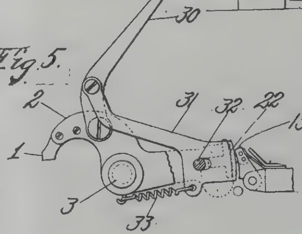


Fig. 2.

Fig. 5.



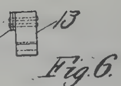


Fig. 6.

The mechanism thus keeps the presser foot **1** normally in contact with the work with light pressure, puts on increased pressure, and automatically adjusts the rack to suit the thickness of the work, and the final pressure is comparatively uniform, whatever the thickness or elasticity of the work.

The presser foot **1** may be lifted by hand by moving the levers **24** and **25** (Fig. 1) together, thereby lifting the detent **13** by the link **26** and directly moving the foot. Alternatively, Fig. 5 shows a preferred lifting gear, with a single lever **30** which (when pressed back) lifts the detent by the cam-link **31**, and then directly moves the foot.

Prov. 10 *typed pages.*

Comp. 15 *tpd. pgs.*, 13 *clms.*; 2 *fols. drgs.*, 6 *figs.*

2784. 21 Mar. *Comp. lapsed.*

P. Alissoff, c/o Bennett, Hirst-street, Arncliffe, N.S.W., engineer and cycle mechanic.

"The Alissoff single tube quick repairing path racing tyre."

Classes 53.3; 97.8.

2785. 21 Mar. *Prov. only.*

I. Rees, Ashford Hill, Gympie, Qld., engine-driver.

"Rotary piston engine."

Class 67.7.

2786. 22 Mar. F. Cotton, Hornsby, N.S.W., engineer.

Liquid fuel burner and plant.

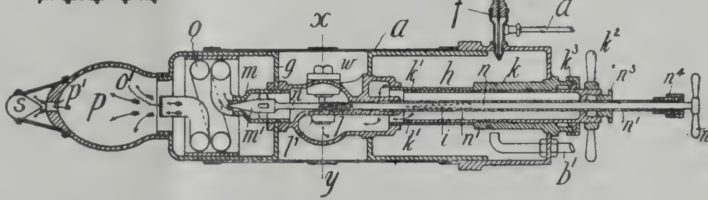
Class 23.3.

The burner has four compartments, a mixing chamber **h**, an insulated valve chamber **l**, a heating coil **o**, and a retort **p**.

Steam, superheated by a coil in the flue, is introduced at **b1**, and the oil from a pneumatic accumulator fed by a steam pump is admitted by the valve **f**.

These mix in the chamber **h**, the emulsion passes through tapered slots in the outer tube **k** (the apertures being controlled by the movable inner sleeve **k1**), the chamber **l**, the check valve **l1**, and the adjusting valve **m1**, into the spiral heating coil **o** (which may have many turns) and emerges through the perforated disc **o1**, into the retort **p**, which projects into the fire chamber, and is converted into gas; the gas on leaving the nozzle **p1**, of the retort at a high velocity, strikes a fire-clay spreading cone or lighter **s**.

2786/05 *Fig. 2*



The burner is mounted over a dished dead plate in which oil is burned for the preliminary heating of the retort up to 800 to 1,000 degrees Fahr.

The oil pump is regulated to keep the pressure in the accumulator the same as the boiler pressure.

3 *printed pages*, 4 *claims*; 1 *fol. drgs.*, 4 *figs.*

2787. 22 Mar. *Comp. lapsed.*

P. T. Geyerman, Brewster, Nobles, Minn., U.S.A., medical doctor.

Step-by-step telephone call apparatus.

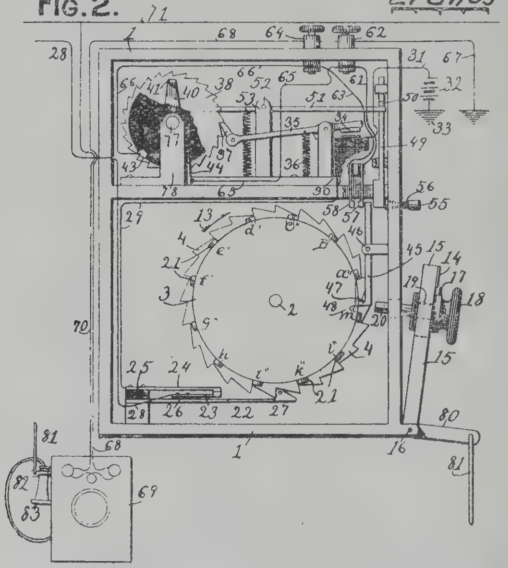
Class 05.8.

For telephone connexions of such limited numbers that a contact for each party can be provided on a spiral peg drum installed for each connexion, this apparatus indicates to every subscriber if the line is clear or by whom it is in use, without any central apparatus.

The axle **2** has an external handle coupled by a coiled spring and detent devices so that the spring may be wound one turn, whereon the handle automatically blocks; the drum continues to rotate, and sends currents (through all connexions in series) as each tooth **4** of the sending wheel passes the click **27** and operates the contact **23**; the caller sets the stop **20** on the frame **15**, opposite the desired connexion indicated by a letter on the slot in which the stop is fixed by the nut **18**; on lifting the receiver, the wire **81** allows the stop **20** to fall against the peg drum, which is stopped at the desired peg of the series **a**, **b**, ... **l**, **m**.

The step-by-step currents thus sent operate all the magnet-motors (**34** to **37**) in the series, and move the wheels **38** the same number of steps; each wheel **38** carries a contact spring **40**, opposite which is an ebonite disc with one contact **43**, which at each station is set at a different angle to the zero position, so that as all the wheels **38** rotate, contacts are made successively at each station until the wheels stop at the desired station; the caller may now ring up by the push **55** and also speak in customary manner. An external pointer on the axis of **38** also indicates on a dial the particular station which is being called.

FIG. 2. 2787/05



On replacing the receiver the frame **15** and stop **20** fall from the peg drum, which resumes its step-by-step contacts until a revolution is completed, when all the wheels **38** are restored to zero position, and the drum is automatically locked until some handle is again wound.

10 *typed pages*, 8 *claims*; 2 *fols. drgs.*, 4 *figs.*

2788. 22 Mar. *C.a.P.* 20 Dec.

Ina B. Tonner, Nicholson and Blyth streets East Brunswick, Vic., married woman.

Cleansing liquid for paint, glass, &c.

Class 25.5.

The composition contains :—

Water	...	20 gallons
Quassia chips	...	$1\frac{3}{4}$ lbs.
Washing soda	...	5 lbs.
Methylated spirits	...	$2\frac{1}{2}$ pints

The methylated spirits is added after the other ingredients have been boiled and cooled.

The fluid is used on a flannel rubber, followed by a clean wet cloth.

Prov. 2 *typed pages.*
Comp. 3 *typed pages*, 1 *claim.* *No drawing.*

2789. 22 Mar. *Prov. only.*

A. H. Bryson, Lockwood-street, Burnside, S.A., secretary.

"An improved butter churn."

Class 36.7.

2790. 22 Mar. *Prov. only.*

The Clyde Salvage Pearl Fishing and Diving Co. Ltd., 146 Sussex-street, Sydney, N.S.W. (*assignees of* Eugene Veron, *act. inv.*, Brighton-le-Sands, N.S.W., engineer.

"Improvements in the raising of sunken vessels, and apparatus therefor."

Class 88.7.

2791. 22 Mar. *Prov. only.*

The Clyde Salvage Pearl Fishing and Diving Co. Ltd., 146 Sussex-street, Sydney, N.S.W. (*assignees of* Eugene Veron, *act. inv.*, Brighton-le-Sands, N.S.W., engineer.

"Improvements in appliances or tools for diving vessels."

Classes 88.7; 91.6.

2792. 22 Mar. *C.a.P.* 20 Dec. *Lapsed.*

J. J. Gilday, Berringa, Vic., miner.

2792/05

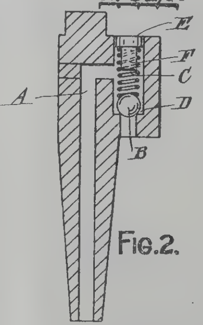


FIG. 2.

Ball valve vent peg for casks.

Classes 27.8; 74.8.

A spring closed ball valve **D** is placed in a lateral chamber **C** to admit air when drawing liquor from the cask, and to exclude air circulation, &c., at other times.

Prov. 2 *typed pages.*
Comp. 3 *typed pages*, 3 *claims*; 1 *fol. drg.*, 2 *figs.*

2793. 22 Mar. E. N. WATERS, 414–418 Collins-street, Melbourne, Vic. (*communicatee of* R. BAGGALEY, *act. inv.*, Pittsburg, Allegheny, Penn., U.S.A., manufacturer and miner, and C. M. ALLEN, *act. inv.*, Lo Lo, Missoula, Mon., U.S.A., metallurgist).

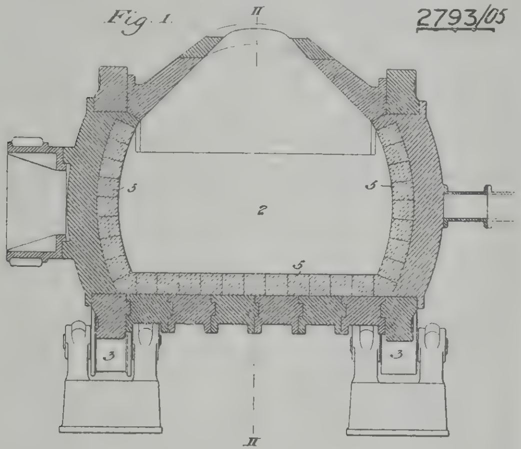
Pyritic smelting of poor copper ores.

Classes 15.5 ; 16.33.

This direct process produces copper matte or copper from silicious and inferior ores without much previous mechanical concentration.

The sulphide ores containing little silica are roughly selected and smelted to produce a low grade matte rich in sulphur, iron, and other oxidizable elements. The slag is separated from the matte in a forehearth, and the matte is drawn off from time to time into the converter, Fig. 1 ; this has a pair of circular runners, and is mounted on a cradle with rollers **3** for tipping ; it has a lining **5** of basic material.

Fig. 1.

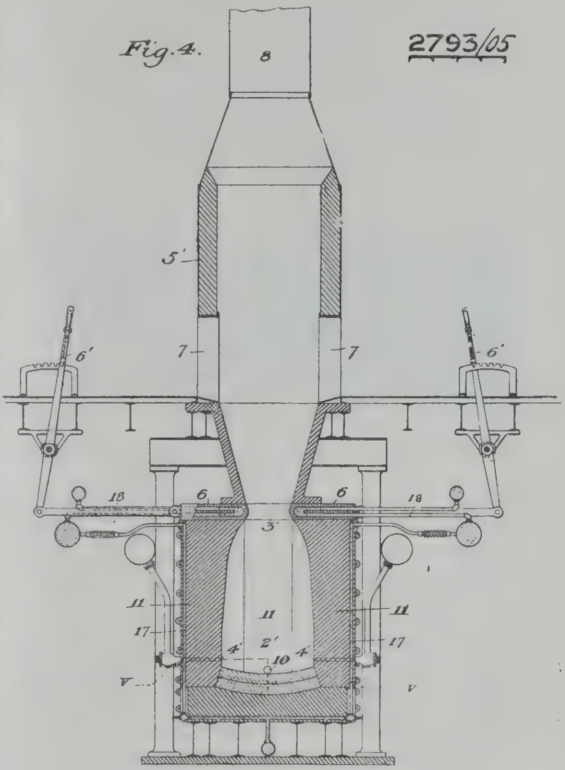


When a sufficient bath of molten matte has accumulated in the converter, the silicious ore is fed in small charges from time to time. Air is introduced through the tuyeres and maintains intense heat within the bath. Thus the body of matte is constantly enriched by oxidation, its iron is fluxed by the silica of the added ore, and the sulphides of the ore pass into the bath, the heat required for dissolving the sulphides and fluxing the silica and iron being supplied in the bath by oxidation.

The converter is tipped from time to time to remove the slag ; further small charges of silicious ore are added till the converter has received its full charge of molten matte, which is enriched to the extent desired, and is then poured either as converter matte or blister copper.

The process may also be carried out in a stationary blast furnace or converter, Fig. 4. It has a lower converting portion $\mathbf{2}^1$ and tuyeres $\mathbf{4}^1$ which are situate below the level of the bath of liquid matte ; the upper portion of chamber $\mathbf{2}^1$ is contracted as at $\mathbf{3}^1$ so as to form a narrow passage connecting it with the charging portion $\mathbf{5}^1$; the passage $\mathbf{3}^1$ may be varied in width by providing one or more slides **6**, operated by levers $\mathbf{6}^1$; **7** are charging doors, and **10** the metal tap ; a slag hole at higher level is at the opposite end ; the walls of chamber $\mathbf{2}^1$ are made of thick water-cooled metal blocks **11** of copper or cast iron.

Fig. 4.



12 *typed pages*, 5 *claims* ; 4 *fols. drgs.*, 5 *figs.*

2794. 22 Mar. E. N. WATERS, 414–418 Collins-street, Melbourne, Vic., patent attorney (*communicatee of* R. BAGGALEY, *act. inv.*, Pittsburg, Allegheny, Penn., U.S.A., manufacturer and miner, and C. M. ALLEN, *act. inv.*, Lo Lo., Missoula, Mon., U.S.A., metallurgist).

Removing scaffolds from blast furnaces by converter slag.

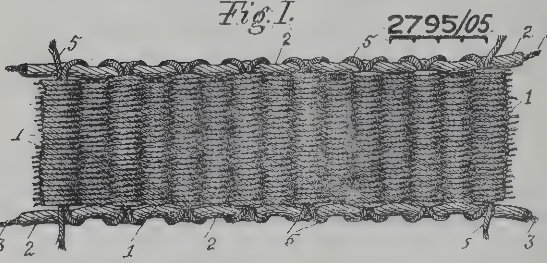
Classes 15.4 ; 17.3.

Very hot converter slag, from pyritic copper smelting, is poured on to the charge of the blast furnace and distributed over the walls of the furnace. The slag dissolves all troublesome accretions that form on the walls, and at the same time furnishes heat supplementary to that produced by the oxidation of the metallic sulphides of the charge, which is needed to keep the blast furnace running continuously without coke.

4 typed pages, 4 claims. No drawing.

2795. 22 Mar. A. H. Rochfort, Point Reyes, Marin, Cal., U.S.A., gentleman.

Tyre cover of woven wire cords.
Classes 58.5; 97.89.



A reversible covering for resilient vehicle wheels consists of a metallic woven web, the warp being wire cords laid on a fibrous core; the outer strands **2** have heavier wire cords or ropes; the weft strands **5**, which consist of twisted wires doubled, are wound about the border strands **2** on each side.

The smaller strands **1** on the tread provide a high degree of flexibility, while the outer strands **2**, which are not exposed to so much flexure consolidate the warp and prevent it from leaving the rim.

The cover is strained on the hollow tyre by lateral clips connecting the ropes **2** to a pair of wire rings, one at each side close to the metallic tyre.

When worn, the covering may be reversed by removing the clips and turning the worn face against the wheel tyre.

3 printed pages, 2 claims; 1 fol. drg., 3 figs.

2796. 23 Mar. *Comp. lapsed.*

Henry Jacobs, 26–28 Queen's-parade, N. Fitzroy, Vic., boot factory manager.

"An improved shoe specially adapted for the use of cyclists and pedestrians."

Classes 44.1; 53.2.

2797. 23 Mar. *Prov. only.*

A. J. Cuming, 769 Sydney-road, Brunswick, Vic., engineer.

"Improvements in steam generators."

Class 63.4.

2798. 23 Mar. *Prov. only.*

A. J. Cuming, 769 Sydney-road, Brunswick, Vic., engineer.

"Improvements in roller bearings."

Class 60.8.

2799. 23 Mar. *Prov. only.*

A. J. Cuming, 769 Sydney-road, Brunswick, Victoria, engineer.

"Improvements in the construction of wheels for road vehicles."

Class 97.2.

2800. 23 Mar. *Prov. only.*

H. Walker, Ginsberg Gold Mining Co. Ltd., Knights, Transvaal, S. Africa, carpenter.

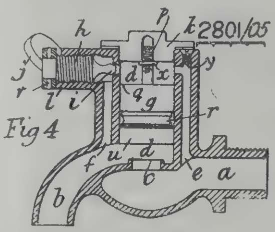
"Improvements appertaining to the destruction of noxious or poisonous fumes or gases in blasting operations in mines and the like."

Class 85.9.

2801. 23 Mar. *C.o.P.* 11 Apr.

F. C. Buck, 47 Perth-street, Prahran, Vic., mechanical engineer.

Pressure closed bib valves; vent controlled.
Class 74.7.



The pressure of water through the port **e** forces the piston **g** (having cup-leather packing) down on the opening **c**, holding it closed with the pressure due to the larger area of the piston.

On turning the screw vent **i**, by the wing-head **j**, the pressure is released from above the piston and the valve opens.

Prov. 3 typed pages.
Comp. 7 typed pages, 6 claims; 1 fol.drgs., 7 figs.

2802. 23 Mar. *Prov. only.*

S. Parks, *act. inv.*, 38 Errol-street, Prahran, Vic., gardener, and H. J. Crompton, *assignee*, 41 Brougham-street, N. Melbourne, Vic., carrier.

"Improvements in gold and other metals saving apparatus for tailings, slimes, and other finely-divided substances."

Classes 11.4; 12.1.

2803. 23 Mar. *Comp. lapsed.*

F. W. Hortin and E. M. B. Hortin, both of 375 Crown-street, Sydney, N.S.W., electricians.

"An improved induction coil."

Classes 02.6; 87.8.

2804. 23 Mar. *Prov. only.*

A. C. D. Hope, Pioneer Estate, Lower Burdekin, *viâ* Townsville, Qld., engineer.

"Improved tube scraper and cleaner."

Class 17.2.

2805. 23 Mar. G. W. J. White, Belmore-road, Ryde, N.S.W., engineer.

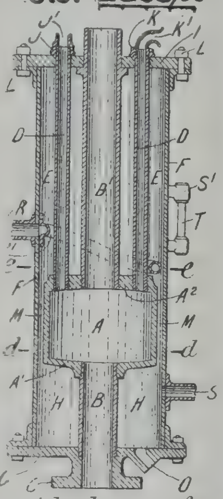
Tubular water heater by exhaust steam.

Class 63.2.

In feed water jackets for exhaust pipes, a diffusing chamber **A** is interposed in the jacketed length between which and the end of the jacket a circle of tubes **D D** are placed, which divide the current and give increased surface; the water enters at **R**, and leaves by **S**; mud collecting below **S** may be blown out at **O**; the gauge tube **T** may also hold a thermometer.

A bifurcated arrangement is also shown, suitable for locomotives, &c.

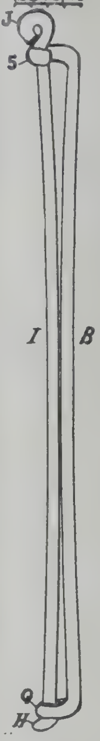
G.9. 2805/05



Prov. 2 *typed pages.*

Comp. 8 *typed pp.*, 7 *claims* ; 2 *fols. drgs.*, 13 *figs.*

2806/05



2806. 24 Mar. *C.a.P.* 28 Dec.

J. G. ter Hofsteede, Brook-street, Sunbury, Vic., saddler.

Legging fasteners by bolt rods.

Class 44.7.

The springy rod **B** is sewn into one edge of the vertical closure of a leather legging, the upper end having a hook **5**, and the lower end a loop **Q**; both the hook and loop are bent horizontally to receive the ends of a similar rod **I** in the other side; the lower point of **I** is placed in the loop **Q**, and the top end **E** (which is bent to form a handle **J**) is placed in the hook **5**; small holes are provided for riveting the rods to the leather.

The curvature, as shown, opposes the tendency of the joint to gape at the middle.

Prov. 2 *MS. pages.*

Comp. 9 *MS. pages*, 4 *claims*, 1 *fol. drg.*, 5 *figs.*

2807. 24 Mar. *Prov. only.*

C. H. Culpan, Whangarei, N.Z., plumber.

"Improvements in or relating to boat rowlocks."

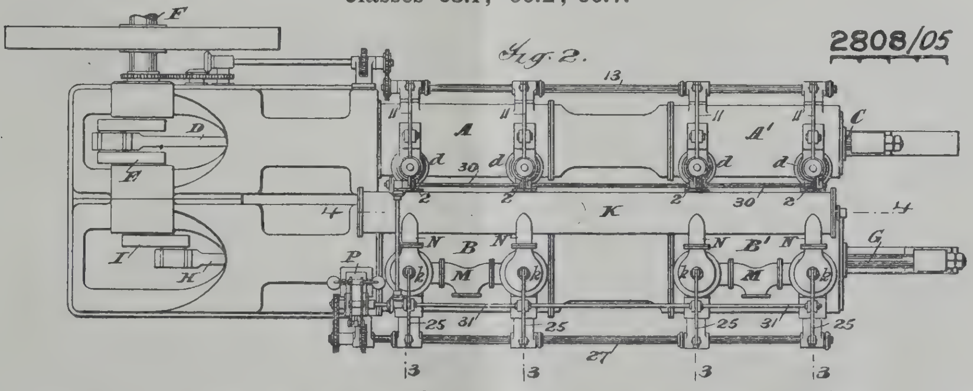
Class 44.7.

2808. 24 Mar. International Steam Pump Company, 114 Liberty-street, New York, U.S.A. (*assignees* of C. N. Scott, *act. inv.*, Buffalo, Erie, New York, U.S.A., mechanical engineer).

Duplex tandem compound gas engine; further expansion of gas after explosion; intermediate receivers.

Classes 63.1; 66.2; 66.7.

Fig. 2. 2808/05



A pair of four cycle tandem engines are coupled to the cranks at about 180 degrees phase, to secure smooth running, combined with extreme lightness of the various parts.

The pair **A**, **A1** are high pressure and of small diameter, and are worked on the usual four-cycle system; the pair **B**, **B1** are of larger diameter, and each end acts alternately as an expansion engine or as an air pump.

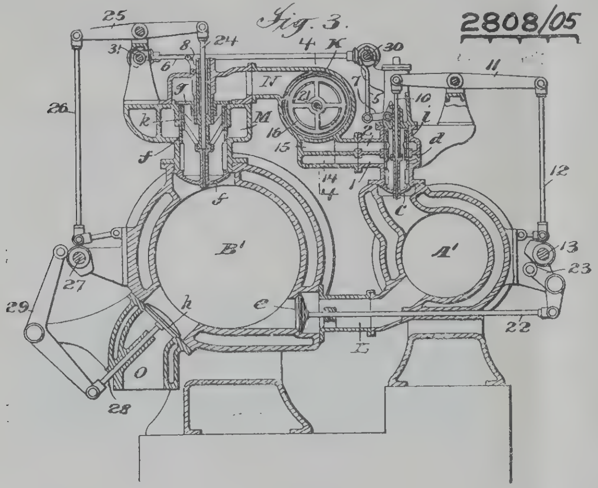


Fig. 3.

2808/05

The lift valves are driven by usual cam-shaft, **13**, **27**, and the governor **P** controls the cut-off valves **i**, on the high pressure cylinders.

Between the pairs of tandem cylinders is a receiver **K**; one end receives compressed air, and the other compressed gas; between the ends of the chamber is a piston which at one end of the stroke opens a valve to release air, if in excess in pressure, and at the other end opens a valve to admit gas to equalize the pressures for the supply of air and gas for the high pressure cylinders. There are separate passages **14**, **15**, Fig. 3, from the receiver ends for gas and air respectively to the admission valves **c**.

The exhaust from the high pressure cylinder **A1** passes through the valve **e**, Fig. 3, into the adjacent low pressure cylinder **B1**, drives the piston back, and compresses a charge of air admitted from the atmosphere at **M** into the receiver through the passage **N**.

On the return stroke the low pressure cylinder exhausts its exploded charge through **O**, on the third (forward) stroke it takes in its suction charge of air, and on the fourth it compresses and forces it into the tank.

11 *typed pages*, 8 *claims*; 2 *fols. drgs.*, 5 *figs.*

2809. 24 Mar. A. S. PATTERSON, 570–576 Bourke-street, Melbourne, Vic., general manager for the Massey-Harris Company Limited (*communicatee of* MASSEY-HARRIS COMPANY LIMITED, 915 King-street west, Toronto, York, Ontario, Canada, manufacturers, *assignees of* C. H. HACKETT, *act. inv.*, and T. W. MORGAN, *act. inv.*, both of Waterloo, Iowa, U.S.A.).

Centrifugal creamers; liners, elastic collar.
Classes 36.6; 60.4.

The resistance to the outward radial flow of the liquid is progressively increased when several rings of cones are used by increasing the number of discs in the outer series **A**, Fig. 2, and spacing them more closely together than the inner series **B**.

With a single series of discs the same object may be attained by increasing the thickness of each disc towards the outer edge, thereby radially decreasing the intervening spaces.

To insure the collar bearing always regaining its centred position a fixed base plate **K**, Fig. 5, has a raised double bevelled ring **M**, engaging with and forced into a groove in a bearing box **J** by compression springs **N**.

8 *typed pages*, 8 *claims*; 3 *fols. drgs.*, 7 *figs.*

(*For drawing see next page.*)

2810. 24 Mar. E. N. WATERS, 414–418 Collins-street, Melbourne, Vic. (*communicatee of* MINING PLANTS COMPANY LIMITED, Chiappini Chambers, St. George-street, Cape Town, Cape Colony, manufacturers, *assignees* of A. E. DAVIS, *act. inv.*, Cumberland House, 94 Pritchard-street, Von Brandis-square, Johannesburg, Transvaal, S. Africa, engineer).

Rubber valves for gritty liquids.
Classes 68.3; 74.7; 84.8.

2810/05

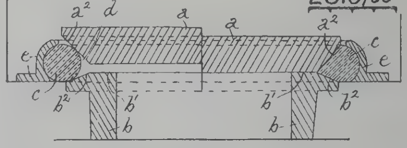


Fig. 1.

In order to prevent excessive wear in valves and their seatings (particularly those used for pumping gritty liquids), stop valves, and the like, each valve has a primary seating **b1**, which may be flat, conical, or spherical, and a secondary seating **b2**. Between this seating and the valve is a ring **c** of india-rubber or other resilient material, which, when closed, encloses any dirt, thus preventing it from

FIG.5.

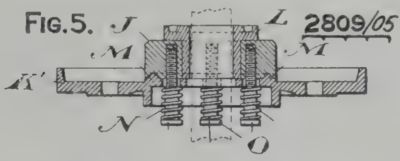


FIG.2.

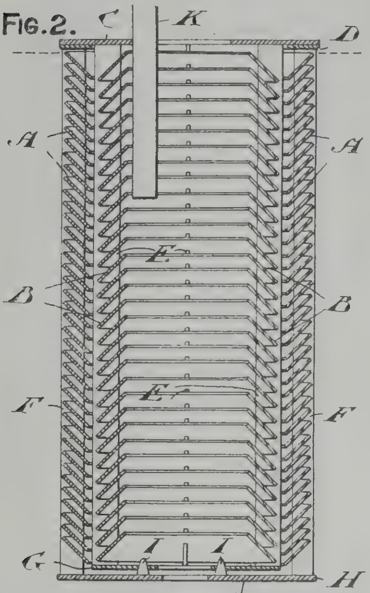
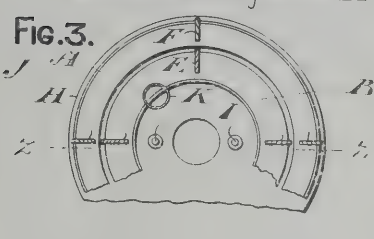


FIG.3.



(**2810**—*continued from previous page.*)

choking the valve, and, when released, allows it to be washed away by the current of water.

This packing ring is kept in place by a metal ring **e**, which is placed outside the ring when the valve is closed by the pressure of water, and inside when it is used as a stop valve.

8 *typed pages*, 3 *claims* ; 2 *fols. drgs.*, 8 *figs.*

2811. 24 Mar. *Prov. only.*

D. Clark, Bairnsdale, Vic., metallurgist.

> "An improved process for the separation of sulphides, tellurides, and other metallic minerals from their ores."

Classes 08.6 ; 12.5.

2812. 24 Mar. *Prov. only.*

H. W. Hoagland, Kirk's Bazaar, Bourke-street, Melbourne, Vic., equine dentist.

> "An improved apparatus for operating dental tools used for filing, grinding, or polishing the teeth of horses and cattle."

Classes 37.1 ; 87.7.

2813. 24 Mar. Professor A. Artom, 3 viâ Venti Settembre, Turin, Italy, electrical engineer.

Telegraphy by elliptically polarized ether waves.

Class 05.5.

Energy for wireless telegraphy is transmitted by circularly or elliptically polarized waves differing in phase. A theoretical discourse at Rome on 15th March, 1903, is quoted.

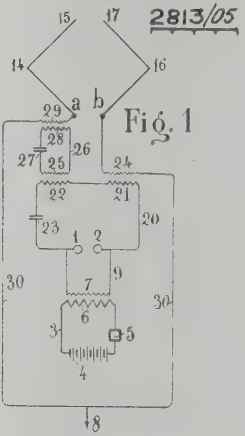
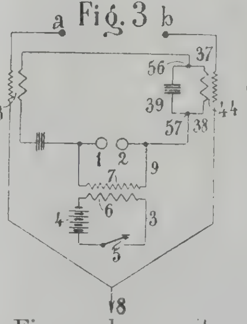


Fig. 1

The transmitter, Fig. 1, has two transformers, the primaries **21** and **22** of which are connected in series and supplied with an oscillatory discharge by the apparatus **1** to **9**.

The secondary **24** is connected directly to a particularly shaped antenna **16–17** and the other secondary **25** is connected indirectly through the circuit **26** to **28** to a similar antenna **14–15**.

Fig. 3



The two remaining terminals of the secondaries **24** and **29** are earthed.

The waves radiating from the antenna **16** have not been displaced in phase, while those radiating from the antenna **14** have been displaced in this case by 90° in phase.

Fig. 3 shows a transmitting station which sends waves displaced a quarter period in phase.

The receiving station is provided with two similarly shaped antennæ so disposed that they occupy the same relative angular relation to one another as those of the transmitting station.

Two transformers are provided at the receiving station, one terminal of each being connected to its respective antenna.

The remaining terminals are both connected to earth.

The secondary of one of these transformers is connected in series with a battery, relay, coherer, and choking coil.

The other secondary which is shunted by a condenser is connected in series with a battery, coherer, and relay. The two relays are made to operate simultaneously by adjusting the condenser capacity in one side and the inductance of the choking coil in the other.

The relays may be connected to any suitable instrument.

Many modifications are diagrammatically illustrated for 2 and 3 phase working, and for various forms of antennæ.

15 *printed pages*, 18 *claims*; 5 *fols. drgs.*, 71 *figs.*

2814. 24 Mar. *Prov. only.*

S. A. Wingrove, Northcote-street, N. Sydney, N.S.W., bricklayer.

"Reversible rupture truss."

Classes 87.3 ; 87.4.

2815. 25 Mar. *C.a.P.* 28 Dec.

W. Watts, 131 Roe-street, Perth, W.A., foreman Railways Department.

Car roof lamps ; oil waste prevention, &c.

Classes 22.2 ; 22.4 ; 96.2.

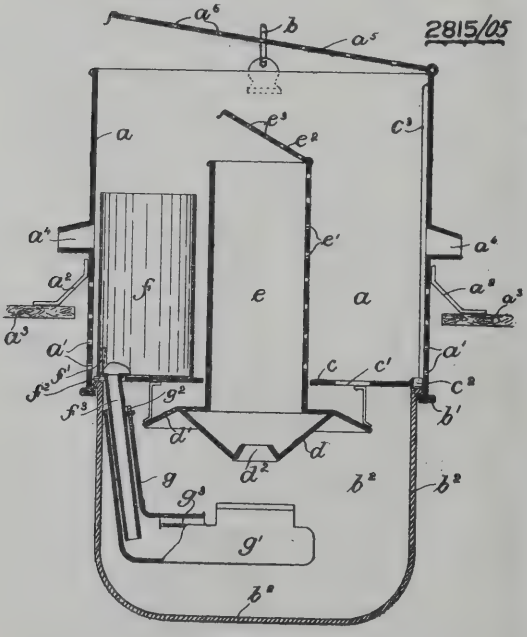


Fig: 1.

The topmost casing **a** (Fig. 1), is formed in one piece ; to prevent the lower part of the lamp from swinging open the glass **b2**, and the partition **c**, rest on the bottom flange **b1**.

The carrying handle **b**, is hinged at right angles to the cap **a5**, which allows the hinged cap **a5** to be opened whether the handle is up or down.

The reflector **d** is made in one piece with an updraft pipe **e**, having exits **e1** for hot air, which are placed on the opposite side to the oil cistern ; the pipe has a hinged cap **e2**, through which the wick is lighted.

The oil cistern **f**, and wick holder **g1**, are detachable, and are connected by the bayonet joint **g2** ; the cistern **f**, and pipe **f3**, forming a bird-fountain which maintains a constant level in the wick chamber **g1**.

The overflow from the wick drains back to the wick chamber by the passage **g3**, thus preventing any excess of oil escaping into the glass shade **b2**.

Prov. 4 *typed pages.*
Comp. 5 *typed pages*, 6 *claims;* 1 *fol. drg.*, 2 *figs.*

2816. 25 Mar. *Prov. only.*

Sarah Marks, Blyth-street, Brunswick, Vic., married woman, and J. Bishop, Ferrars-street, South Melbourne, Vic., manufacturer.

"An improved method of packing butter and the like."

Classes 36.8 ; 57.4.

2817. 25 Mar. *Prov. only.*

B. Sherman, 16 and 17 Devonshire-square, London, Eng. (*assignee of* P. B. H. Seabrook, *act. inv.*, H. H. P. Seabrook, *act. inv.*, and L. K. Job, *act. inv.*, all of 32, 33, and 34 Featherstone-street, City-road, London, Eng.).

"Improvements in automatic electric switching devices, applicable to flash advertising signs and the like."

Classes 00.7 ; 04.3 ; 54.1.

2818. 25 Mar. P. Robin, 71 Rue de Provence, Paris, France, doctor of medicine.

Pneumatic vehicle springs.

Class 96.5.

A cylinder **a**, connected by a pipe and cock **d** to a compressed air reservoir is fixed to the underside of a vehicle and provided with a piston having a hollow trunk rod **j**, and an internal plunger **i** attached to the axle **r** by a crosshead **s** guided on the horn plates **w** or, as illustrated in another figure, by a radius rod; the piston when nearing the top of the cylinder closes the ports **p** and forms an air cushion; the down stroke is deadened by the oil around the collar **j1**.

FIG.1.

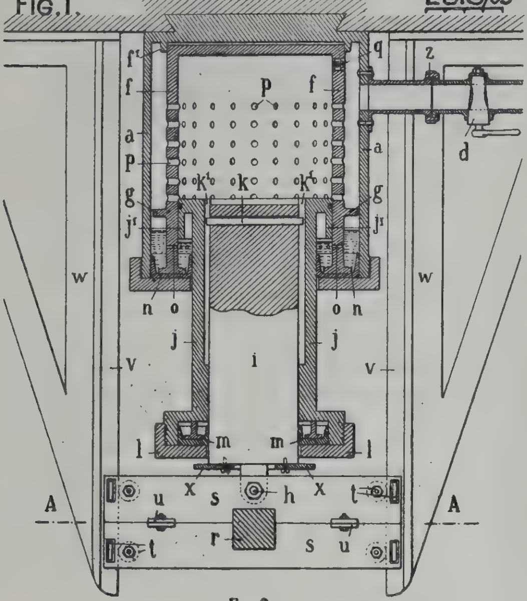
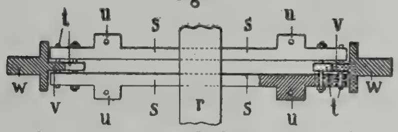


Fig.2.



Modifications are illustrated, and springs are provided for use when the pneumatic apparatus fails.

29 MS. pages, 6 claims; 6 fols. drgs., 11 figs.

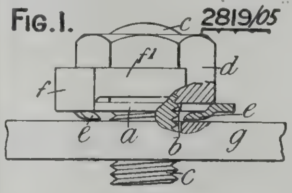
2819. 25 March. W. H. Cook, Wood Grange, Leigh-on-Sea, Essex, Eng., engineer.

Springy lock-washer.

Class 78.4.

The washer has radial tongues **e** in the edge of the bolt hole projecting inward and slightly downward, so that when compressed the tongues will be forced radially into the screw threads to hold the washer.

FIG.1.



A spring-finger **f1** which originally is tangential to the washer, is turned up to bear against the flat of the nut and assist the tongues to prevent the nut slackening back.

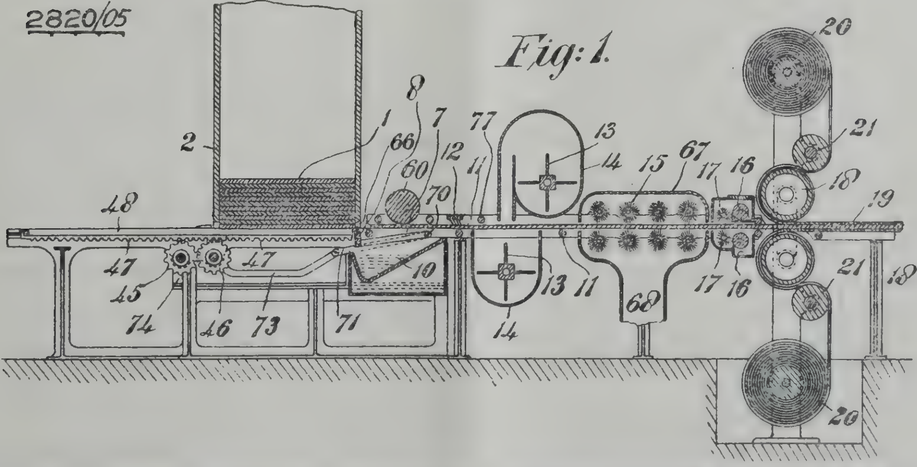
Alternatively, the washer may be used outside the nut and screwed down with suitable tongs.

5 typed pages, 2 claims; 1 fol. drg., 3 figs.

2820. 25 Mar. G. S. Mayhew, 2 Basinghall-avenue, London, Eng., engineer.

Glueing and assembling compo boards.

Classes 48.1; 80.9.



The machine has a magazine **2** at one end to contain deal slices **1**, which are fed forward between guides **11**, by two alternately reciprocating pushers **48**; the edges in passing are glued by a wiper **8**, which rises out of glue tank **10**, and are then pressed together and passed forward between upper and lower fans **13**, which dust the sides with sawdust, then through a series of brushes **15**, which clean both sides of superfluous glue and dust, then through upper and lower cement or paste tanks **16**, with revolving coating brushes **17**, the board then passes between heated blanketed rolls **18**, which feed and press on the lining paper **20**.

A modification of cement tanks is shown by which the cement is spread over the surfaces of the board by pressure plungers.

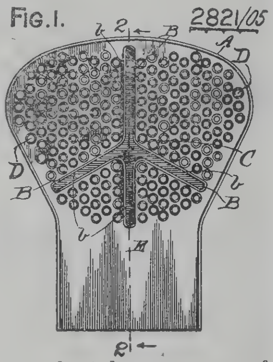
9 *typed pages*, 7 *claims*; 3 *fols. drgs.*, 10 *figs.*

2821. 25 Mar. E. Phillips, 533 Collins-street, Melbourne, Vic., patent attorney (*communicatee of* J. J. Boyce, *act. inv.*, and J. McCormack, *act. inv.*, both of Suite 1513–15 Monadnock Block, Chicago, U.S.A., inventors.

Corrugated expansion ribs on boiler tube sheets.

Class 63.4.

Fig. I.



A tube plate **E** has long recesses or channels **B** of an approximately rectangular cross-section, extending radially from a point **C** in that portion of the plate which is exposed to the greatest heat for the purpose of providing for expansion and for stiffening the plate.

4 *typed pages*, 6 *claims*; 1 *fol. drg.*, 2 *figs.*

2822. 27 Mar. *C.a.P.* 22 Dec.

Catherine M. Brophy, Upper Manilla, N.S.W., school teacher.

Tenter spike and needle for marking dress skirts.

Classes 42.1; 43.1.

A pair of blocks are fixed on to a work table at the desired distance apart for the length of the skirt; one block has a vertical fixed pin **D1** (Fig. 1) and the other a socket **C2** (Fig. 2) for holding a needle **C3** with a coloured thread.

Fig. I

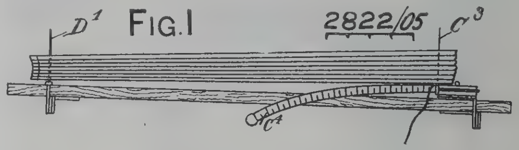
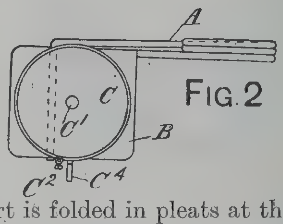


Fig. 2



The skirt is folded in pleats at the waist and impaled on the spike **D1**; the bottom of the skirt is also folded and impaled on the threaded needle, which is then drawn up through the material and the required line marked by the coloured thread.

A tape measure **C4** with case **C**, is shown in position.

Prov. 3 *typed pages.*

Comp. 4 *typed pages*, 2 *claims*; 1 *fol. drg.*, 5 *figs.*

2823. 27 Mar. *Prov. only.*

H. G. Allchin, "Avondale," N. Poowong, Vic., cheesemaker.

"Improvements in martingales."

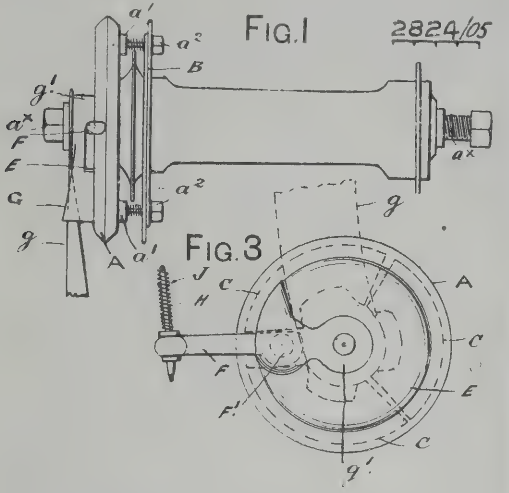
Class 39.7.

2824. 27 Mar. W. and A. Chamberlain, both of Spa-lane, Wigston Magna, Leicester, Eng., manufacturers.

Attachable hub brake.

Class 94.3.

The brake drum **A** has an internally recessed rim, which guides the V-edges of a metallic block **C**, Fig. 3, of three segments; the drum is attached to the hub by a back plate **B** and studs **a2**, and is driven by the spokes; the V-segments are held off the drum by a sphincter-spring in a circular groove, and are spread out for gripping, by a cam **F1**, which turns on a stud on an external coverplate **E**; the cover is prevented from turning by a projection **C**, which stops against the fork tube **g**; the cam lever **F** is operated by any usual device of wire **J** and spring **H**.



4. *MS pages, 2 claims; 1 fol. drg., 6 figs.*

2825. 27 Mar. *C.a.P.* 23 Dec. *Lapsed.* C. H. Black, 14 Hoast-street, Linwood, near Christchurch, N.Z., manufacturer's representative.

"An improved mat fastener."

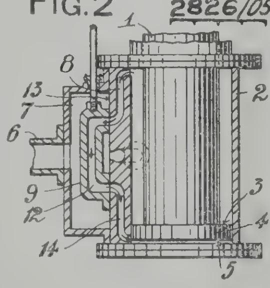
Class 46.4.

2826. 27 Mar. J. Aitken, 2 Davey street, Geelong, Vic., engineer.

Single cylinder compound engines; trunk piston, &c.

Classes 63.1; 64.2; 64.5.

A cylinder **2** has a double ported slide valve **9**, and a trunk piston **4**, to the small side of which high pressure steam is admitted; at the end of the in-stroke the two sides of the piston are brought into communication through a passage **12** in the valve, and the back or out-stroke is made by the steam expanding into the larger area below the piston; the expanded steam then exhausts through the centre port as usual.

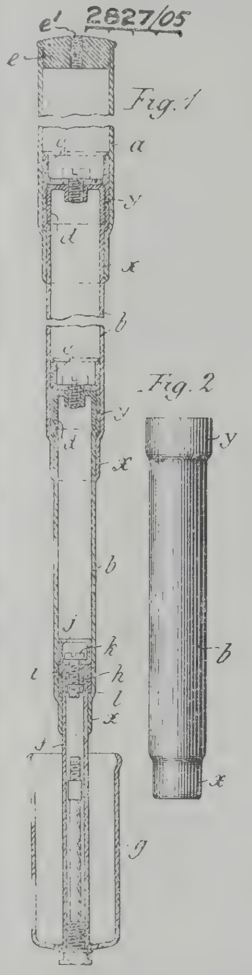


4 *typed pages, 3 claims; 1 fol. drg., 3 figs.*

2827. 27 Mar. G. Hagendorf, Trebbin, Brandenburg, Prussia, manufacturer.

Telescopic tyre pump, swage-shouldered joints.

Classes 74.5; 97.85.



In telescopic air pumps composed of tubes jointed together and working upon one another, to avoid the use of weak joints cut in the thickness of the tube, with the usual thin sharp shoulders, each tube, Fig. 2, is jointed by having one end **y** contracted and the other end **x** expanded (during the drawing or swaging of the tubular section), giving also long guiding sections for sliding.

The lower tube, Fig. 1, is fitted with a hand-grip **g**, which forms a case for the whole when collapsed; each section has a cup-leather **c**, attached to a screwed cap **d**, all of which act both as piston and gland packing. The inflater nozzle carried in the end **g** is transferred to the connexion **e1** at the other end for use.

5 *typed pages,* 4 *claims;* 1 *fol. drg.,* 2 *figs.*

2828. 27 Mar. Société Anonyme des Mines des Bormettes, *assignees,* 77 Rue Sylvabelle, Marseilles, France, mining company and founders, and A. Lotti, *act. inv.,* 77 Rue Sylvabelle, Marseilles, France, civil engineer.

Utilizing slag heat in pyritic sulphating.

Classes 15.1; 15.2; 15.4.

The broken pyritic ore is thrown into the hot molten smelter slag and quickly mixed or stirred. Thick smoke consisting of sulphur, sulphur dioxide, and sulphur trioxide fumes is liberated, and an incandescent spongy mass obtained.

The spongy mass is exposed to a current of air, and more thick fumes, the sulphur from which sometimes condenses into drops, are evolved, and a single block of spongy, easily-fusible material remains.

If the ore is very rich in sulphur, it may be partially roasted, thrown into the slag as it comes from the roasting-furnace, and afterwards blown, if necessary; or a certain quantity of the matte formed by the first process may be ground and again treated with the ore.

5 *typed pages*, 1 *claim*; *no drawing*.

2829. 27 Mar. B. L. BLATCHFORD, 49 Finniss-street, North Adelaide, S.A., steel maker.

Steel casting from fixed hexagonal converters.

Classes 15.5; 16.3.

Castings are made from a mixture of scrap-iron, pig-iron, ferro-silicon, ferro-manganese, and aluminium, which is firstly fused in a cupola furnace of any well-known pattern, a drop-bottom pattern being illustrated.

The stationary covered hexagonal converter, Figs. 2 and 5, has a charging hole 12, lined with phosphor bronze, a slag hole opposite at a lower level, and blast tuyeres 15, so arranged as to deliver the wind into the molten metal at varying angles; the hexagonal shape of the converter prevents any swirling of the molten metal, and the blast pipes 7 are embedded in the fire-brick lining of the converter so as to heat the air.

FIG. 2

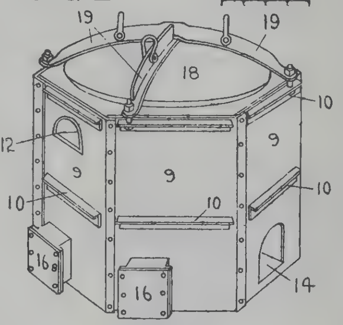
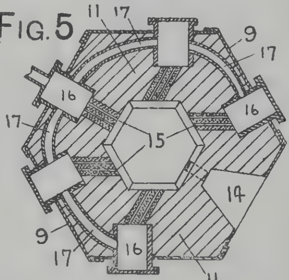


FIG. 5



After re-heating with a coke fire, the cover 18 is fastened down, the metal is charged from the cupola in determined quantity, and blowing is continued until test samples from the slag hole have the desired quality; the aluminum is added after the steel is tapped off into the casting ladle.

After tapping a ladle charge for casting, further metal from the cupola is added and blowing resumed.

9 *typed pages*, 5 *claims*; 2 *fols. drgs.*, 8 *figs.*

2830. 27 Mar. F. W. GASMIER, Petersburg, S.A., engineer.

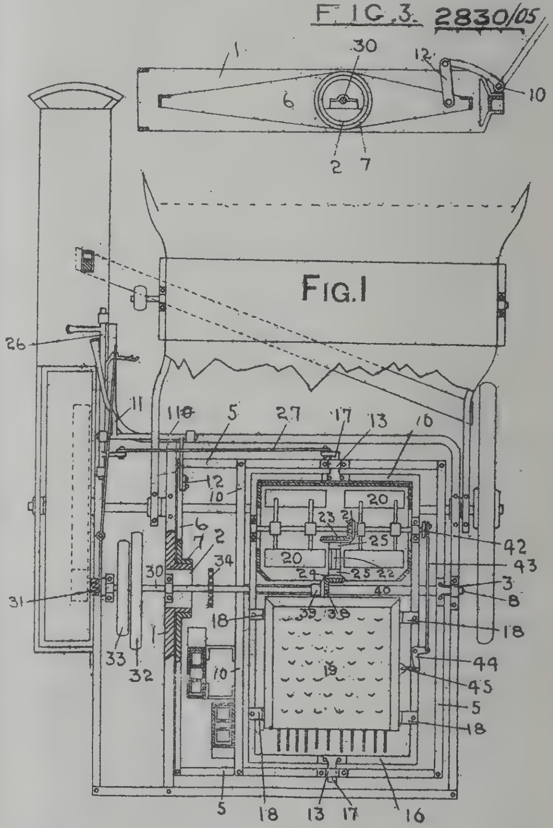
Strippers; levelling winnower and sieves by gimbals.

Classes 32.3; 32.6.

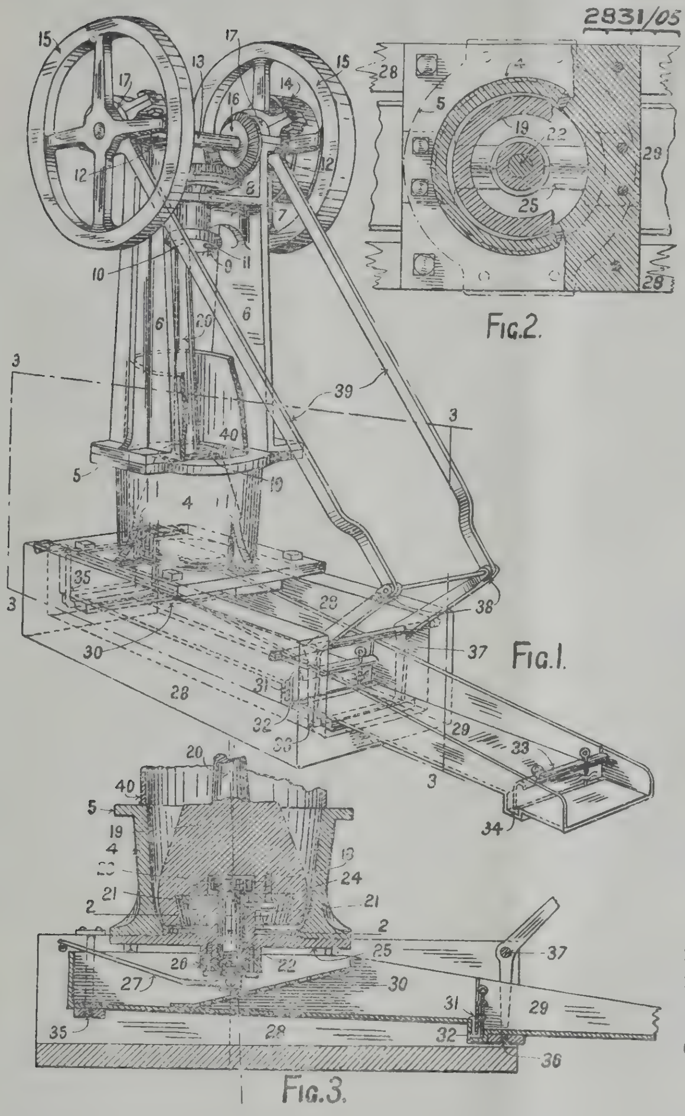
To maintain the winnowers level on uneven ground the main frame 1 has a swinging frame 6, carried on trunnions 7 and 8 surrounding the axle 30, at each side, and connected by levers to a handle 11, so that it can be levelled longitudinally; within this frame is mounted an inner frame 16, carried on trunnions 17, at each end of the outer frame, and connected to a handle 26, so that it can be levelled transversely, the inner frame carries the winnowing fan 21, riddle box 19, sieves, elevators, shutes, headings, thresher, &c., which can all be kept level irrespective of the position of the machine frame.

FIG. 3. 2830/05

FIG. 1



9 *typed pages*, 8 *claims*; 2 *fols. drgs.*, 4 *figs.*



2831. 27 Mar. C. Koerstz, 41 Smith-street, Balmain, N.S.W., mechanical engineer.

Quartz mill; gyratory pestle; shaking amalgamating trays.

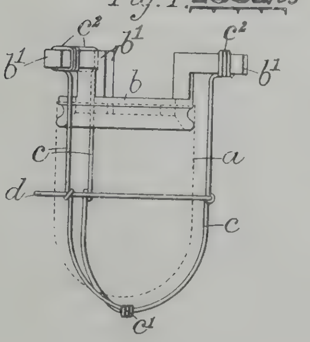
Classes 10.4; 11.4; 13.4.

This mill is designed to crush one to two tons per day. The mortar **4** is mounted above an amalgamating cradle **29**. The top of mortar carries side uprights **6**, supporting the main driving shaft **18**, carrying driving pulleys **14**, flywheels **15**, bevel gear **16**, driving the disc **9** and eccentrics **17**, which shake the cradle.

The bottom of mortar **4** is partly spherical, and a pestle **19**, having a stem **20**, gyrates in one of several socket bearings **10**, **11**, in the disc **9**. The pestle **19** is supported by an adjustable bolt **22** in a cross girder **25** with a ridge top so that the crushed material can fall off it into the cradle below.

The cradle **29**, has a sieve **30**, amalgamating plate **31** (2) and riffles **32** (2); it is slung at **35**, and is shaken by bent levers **36**-**38** by the eccentrics **17**. A guard **40**, is fixed to the side plate **6**, to assist in feeding the ore.

6 *typed pages*, 7 *claims*; 1 *fol. drg.*, 3 *figs.*



2832. 27 Mar. The New Inverted Incandescent Gas Lamp Company Limited, 23 Farringdon-avenue, London, Eng. (*assignees of* A. Farkas, *act. inv.*, 19 Rue Auber, Paris, France, engineer).

Wire protective cage for inverted and other mantles.

Classes 23.5; 58.4.

A cage or basket of trellis work **c**, of approximately the same shape as the mantle **a**, is made of metallic wires covered with asbestos and heated with incandescing material, and supported by the refractory frame **b1**, which carries the mantle; if the mantle breaks the fragments are held by the cage till a new one can be applied.

The protector is also applicable to upright mantles.

5 *typed pages*, 4 *claims*; 1 *fol. drg.*, 2 *figs.*

2833. 27 Mar. *Prov. only.*

W. Courtney, coachsmith, and J. Hunt, coach bodymaker, both of 4 Morehead-street, Waterloo, N.S.W.

"Rubber bearing scroll iron and washer to be applied to all vehicle springs."

Class 93.3.

2834. 27 Mar. *Prov. only.*

Chown Bros. & Mulholland Ltd., Thomas-street, Ultimo, N.S.W., manufacturers (*assignees of* T. J. Mulholland, *act. inv.*)

"Improvements in light sheet metal piping."

Class 73.2.

2835. 27 Mar. *C.a.P.* 18 Oct.

J. Tagell, corner of Bayview-road and High-street, Burwood, Vic., engineer.

Rock drills and ore stamps.

Classes 10.2; 65.3; 85.4.

To enable the whole piston area **B1** to receive fluid pressure, the usual spiral-grooved stem is omitted from that side of the piston, the spiral grooves are formed at **C2**, on the striking piston rod, and the ratchet gear **E** is placed at the inner end of the long gland **D**.

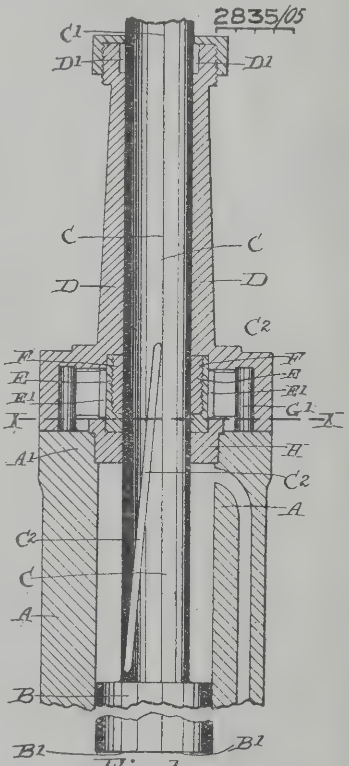


Fig. 1.

Prov. 4 typed pages.

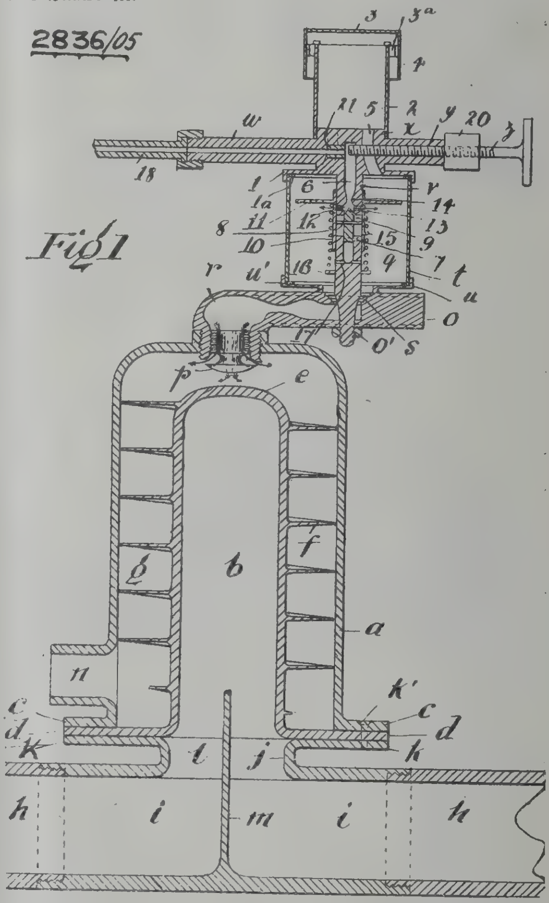
Comp. 6 typed pages, 1 claim; 1 fol. drg., 2 figs.

2836. 28 Mar. C. H. Bryant, 12 The Embankment, Twickenham, Middlesex, Eng., engineer, and A. Watling, 9 Southampton-street, High Holborn, London W.C., Eng., land agent.

Vaporizing petroleum by exhaust gases.

Classes 66.5; 66.7.

A supply of air and oil is drawn by the suction of the gas engine past a valve chamber **q** (containing a spring controlled sleeve **10**, carrying a vertically moving diaphragm **11**) and through a stepped cone-shaped opening **s**, leading by a tube **o** (having a series of restrictions and enlargements in its bore) and spreader **p**, to a spiral passage **g**, formed between a pair of casings **a** and **b**, which are heated by exhaust gas diverted into the space **b**, by the baffle **m**.



The air is admitted through **5**, to the chamber **q**, the oil is admitted by the pipe **18**, adjusted by the screw **z**; the diaphragm is lifted by the spring to close the oil at the cone valve **13**, but is dragged down by each suction stroke admitting the oil only when air is also entering.

11 typed pages, 5 claims; 2 fols. drgs., 6 figs.

2837. 28 Mar. *C.a.P.* 23 Oct.

G. F. Lemay, 64 Grattan-street, Carlton, Vic., galvanized-iron worker.

Guide rollers for curving corrugated sheets.

Class 73.2.

In a machine for bending sheets of corrugated iron, a set of three grooved rollers of the usual pattern (the top one being set by the screw **C**) have on each side a pair of guide rollers **A**, **A**, the grooves of which engage with the corrugations in the sheet being bent, and compel it to travel in a direction truly at right angles to the axes of the bending rollers.

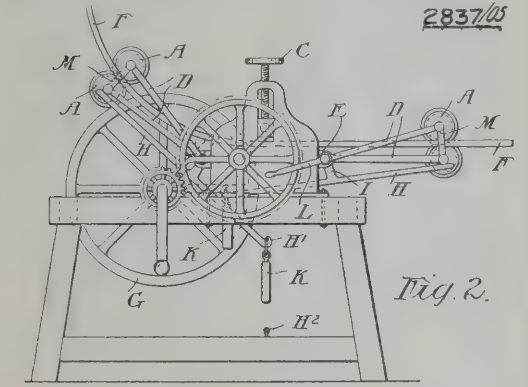


Fig. 2.

The guide rollers are carried by swing arms **D**, pivoted to the cheeks **E** of the machine, and are balanced by weights **K**, or springs attached to extensions of the balance arms **H**.

Prov. 2 *MS. pages.*
Comp. 5 *typed pp.*, 6 *claims;* 2 *fols. drg.*, 3 *figs.*

2838. 28 Mar. *C.a.P.* 9 Nov.

H. Rosenberg, 21 Liechtenstein-Strasse, Vienna, Austria, merchant, and E. Rosenberg, 5 Kirchstrasse, Berlin, Germany, doctor of technical science.

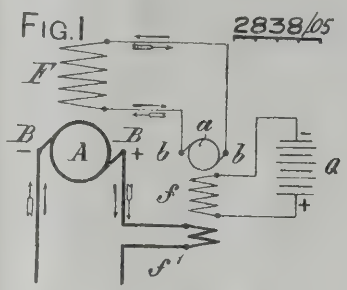
Train lighting dynamos with auxiliary excitation.

Classes 02.1; 02.2; 02.3.

The armatures, **A** and **a**, may be in one dynamo, or in different ones driven with concurrent speed variations.

The field **F** for **A** is excited by current from the small armature **a**, and the field of the latter is excited by a constant current **f**, from the accumulators, opposed by the current in **f1** (which may be series or shunt) from the main dynamo **F**, thus excessive speed in **A**, reduces the flux through **a**, concurrently with the increase of E.M.F. due to the increased speed, thereby producing a limit to the E.M.F. in **A**.

Fig. I



Diagrams are also given for several modifications with varied field magnets having exciting currents derived from the main armature.

Rheostats may be used in any of the circuits.

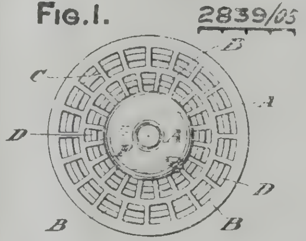
Prov. 17 *typed pages.*
Comp. 20 *typed pp.*, 11 *cls.;* 3 *fols. drgs.*, 10 *figs.*

2839. 28 Mar. J. W. Bray, a director of Geo. Bray & Co. Ltd., Bagby Works, Leicester Place, Leeds, Eng., gas lighting engineer.

Clay gratings for mantle burners.

Classes 19.2; 23.5.

Fig. I.



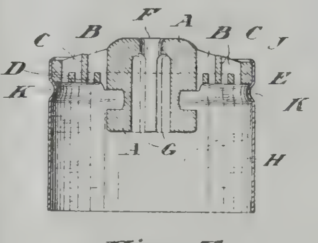


Fig. 4.

In development from G.B. 5215/*03*, the lower grating of wire gauze used to prevent back firing is replaced by a second layer of openings **D**, in a ceramic grid which has an upper layer **B**, of larger perforations.

The two layers of perforations may be formed in one disc of clay as in Fig. 1, or they may be divided as at the line **D** in Fig. 4; and the whole may be mounted in a metal tube **H**.

The socket **F**, for the mantle rod, and the grooves **G**, for a clip are as in G.B. 5215/*03*.

4 *typed pages*, 3 *claims;* 1 *fol. drg.*, 5 *figs.*

2840. 28 Mar. *Comp. lapsed.*

G. J. Cox, Campbell-road, Balwyn, Vic., gas engineer.

> "Differentiating apparatus pertaining to gas meter indices."

Class 21.6.

2841. 28 Mar. *Prov. only.*

G. E. Woodward, 37 Gerrard-street, London W., Eng., engineer.

"Improved process for the production of non-inflammable celluloid."

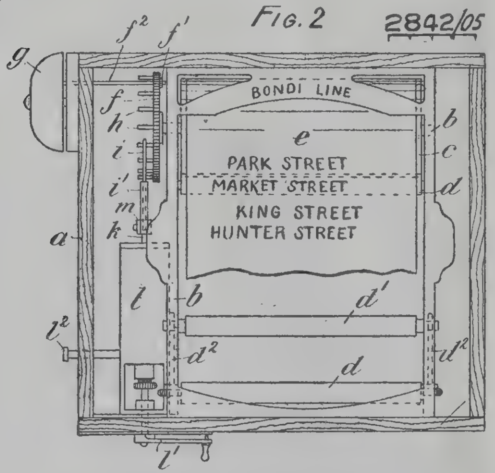
Class 47.7.

2842. 28 Mar. *C.a.P.* 27 Sept.

H. W. Donnelly, 99 Abercrombie-street, Redfern, N.S.W., engineer.

Stopping place indicator.
Classes 54.1; 96.2.

An endless band **e**, with the names of the stopping places in their proper succession is driven by a peg drum **c**, the long bight being folded around several rollers **d**, **d1**, to economize space.



The peg drum **c**, engages the band by a row of perforations, and is driven step by step by a reversible pawl **i**, acting on a crown wheel **h**; the pawl may be reciprocated by a pneumatic cylinder **l** (containing a return spring), the pipe **12**, leading to the air brake system; the pawl **i** is reversed at the end of the journey by the handle **l1**.

A magnet motor is also illustrated for operating a reversible ratchet feed; the bell **g** notifies the passing of each stopping place.

Prov. 3 *typed pages.*
Comp. 9 *typed pp.*, 4 *claims;* 2 *fols. drgs.*, 6 *figs.*

2843. 28 Mar. *Prov. only.*

A. J. Powell, 362 Parramatta-road, Petersham, N.S.W., bicycle manufacturer, and A. Horton, 344 and 346 Parramatta-road, Petersham, N.S.W., coach builder.

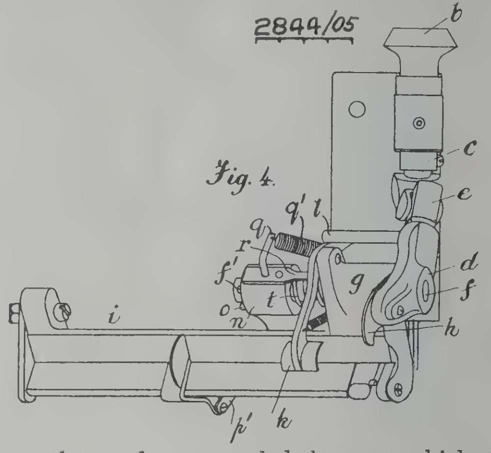
"Improvements in trotting gigs."

Classes 93.2; 93.3.

2844. 28 Mar. G. H. Catt, *J.P.*, Villa Amalthea, Hythe, Southampton, Eng.

Tuck cutting attachment for finishing cigars.
Class 33.4.

The frame is applied to any suitable cigar machine, so that the bevel gear **b** and crank **c** cause proper reciprocation of the rock-shaft **f**, which carries the shears **h** at one end, and at the other a loose coupled boss **n**, which is coupled to the pivoted cradle **i** by the link **p1**.



A clamp arm **k** is pivoted to **g**, and pulled down on the cigar by a spiral spring before the shears close; after the clamp **k** rises the cradle **i** is tilted and the cigar is thrown out.

6 *typed pages,* 6 *claims;* 2 *fols. drgs.,* 5 *figs.*

2845. 28 Mar. F. A. Lundquist, 155 West Jackson Boulevard, Chicago, Cook, Ill., U.S.A., electrician and engineer.

Step-by-step selective telephone exchange.
Classes 05.8; 56.2.

Each subscriber has a calling device (equivalent to the switches **T**, **T1**, Fig. 3), by which he can send step-by-step impulses to the central office, where a "main"-switch, as Fig 1, is installed for each subscriber; there are also modified "auxiliary" switches for each group of ten main switches for the selection of subscribers having 3- or 4-figure numbers in the list.

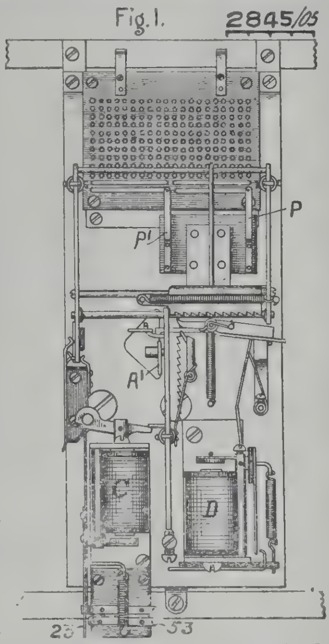
The main switches, Fig 1, have ten horizontal rows of contact-pairs, in front of which a carriage is moved vertically by the vertical feed rack by a sufficient number of impulses from the subscriber's switch to select the "tens" in the subscriber's number; then the "units" figure is selected by a sufficient number of similar impulses to the horizontal rack.

If there are more than 100 subscribers, then the auxiliary switches are previously operated to select the thousands and hundreds; in the subscriber's actual instrument mechanical assistance (not detailed) is provided to simplify the operations and insure correct sequence.

Fig. 3 shows diagrammatically the connexions for two subscribers **T** and **T1** with their main switches having contact carriages **P** and **P1** (in which only 5 x 5 groups of contacts are illustrated to reduce the complication) and auxiliary switches (of 3 x 3 contacts) **P2**, **P3**, **P4**.

A more elaborate diagram illustrates the manner in which "auxiliary" switches may be selected and interchanged, when some are "engaged" by other subscribers.

Fig. 1.



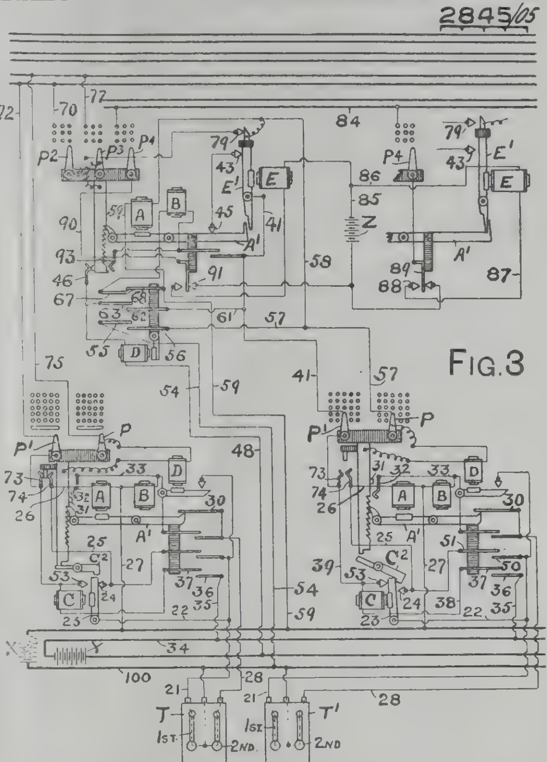


FIG. 3

11 *typed pages*, 5 *claims*; 6 *fols. drgs.*, 6 *figs.*

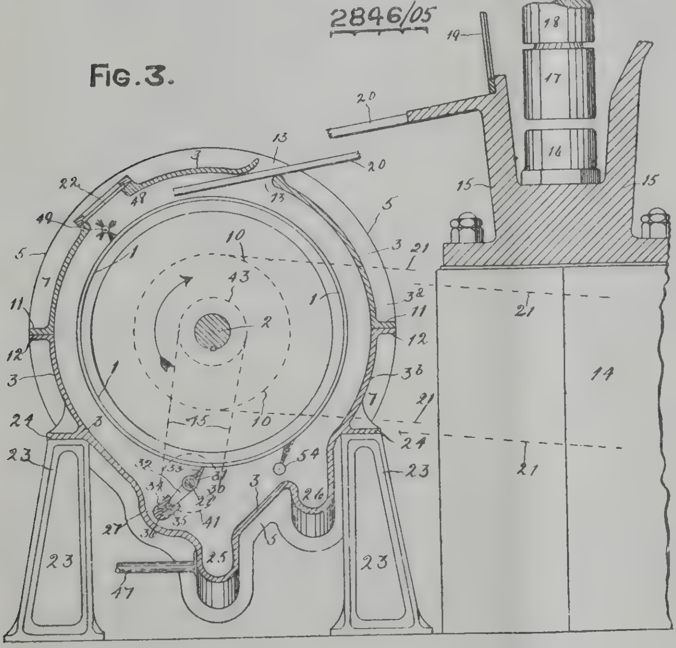
2846. 28 Mar. *C.a.P.* 28 Dec.

D. Draper, 16 Appolonia-street, Troyeville, Johannesburg, Transvaal, S. Africa, geologist, and G. A. Hay, 3 Corporation Buildings, Commissioner-street, Johannesburg, Transvaal, S. Africa, director.

Rotating amalgamator and concentrator for continuous operation.

Class 13.4.

FIG. 3.



A drum of amalgamated copper rotates within a casing **3**. A shoot **20** directs the pulp from the stamps **15** into the casing **3**, in a direction opposite to that in which the drum rotates.

A revolving brush **49** cleans the amalgamated surface, and a scraper **33** (detailed in Fig. 5), which may be traversed across the drum by a feed screw **28**, is moved against the surface by the guide **35**, when it is desired to remove the excess of amalgam. The concentrates which may be retained on the amalgamated surface are washed off when the cylinder passes the water spray **54**, and fall into the sump **26**.

Prov. 6 *typed pages.*

Comp. 12 *typed pages*, 5 *claims*; 2 *fols. drgs.*, 5 *figs.*

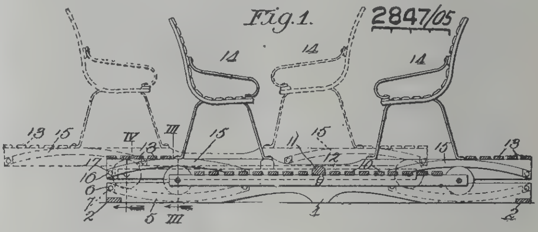
2847. 28 Mar. G. G. Turri, Salisbury Building, 150 Queen-street, Melbourne, Vic., patent attorney, *communicatee of* Hapgood Plow Company, Alton, Madison, Ill., U.S.A., manufacturers (*assignees of* J. S. Tuttle, *act. inv.*, Kansas City, Jackson, Missouri, U.S.A., manufacturer).

Chair swings ; pendulous motion on rollers and rails.

Class 53.5.

A curved swinging motion is given to the chairs **14**, by the wheels connected by frame **9** rolling between curved rails **15** under the chair platform, and oppositely curved rails **5** on the ground frame ; stops prevent too extensive range of motion.

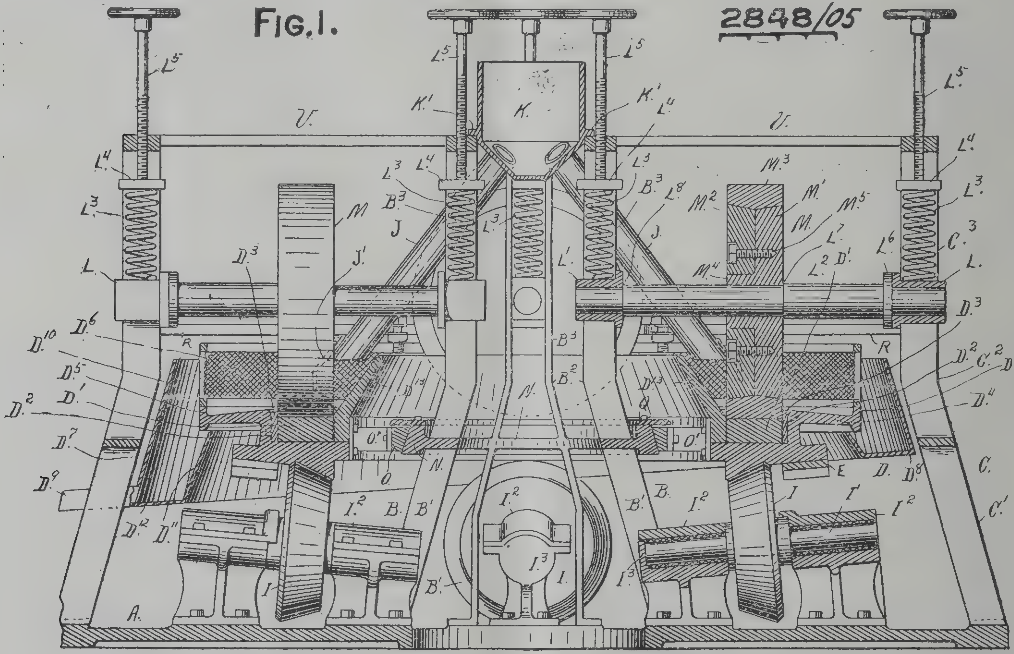
Fig.1. 2847/05



7 typed pages, 3 claims ; 1 fol. drg., 5 figs.

2848. 28 Mar. G. G. Turri, Salisbury Buildings, 150 Queen-street, Melbourne, Vic., patent attorney (*attorney of* The Elspass Roller Quartz Mill and Manufacturing Company *assignees of* J. H. Elspass, *act. inv.*, corner 17th and Wazee-streets, Denver, Col., U.S.A., mining engineer).

FIG. I. 2848/05



Edge runners and pair grinders ; details.

Class 10.3.

The annular rotary pair **D** is supported on bevelled rollers **I**, and driven through the cog-ring **E**.

Edge runners **M**, on axles **L2**, guided in the inner and outer posts **B**, **C** are forced down by adjustable coil-springs **L3**.

A central feed hopper **K** has conduits **J**, leading the ore under each runner.

The annular trough **D**, surrounds the roller path **D1**, and receives the pulverized material.

Ploughs **S** (Figs. 2 and 8), are mounted on the frame by adjusting nuts ; each plough **S** has projections **S2**, **S3**, extending outward over the ledge **D4**, and presents an inclined face to the material on the ledge **D4** of the mortar

D, as it rotates and throws the material inwardly to the pulverizing face **D1**. They also have curved faces **S4**, which throw the pulp against the screen **D6**.

FIG. 2.

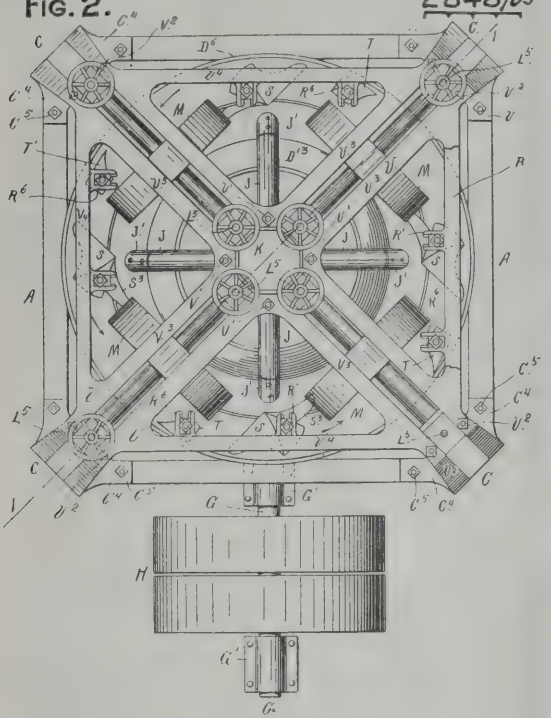
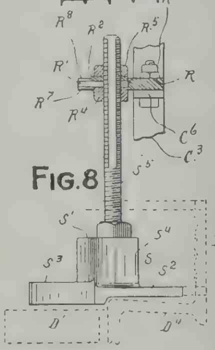


FIG.8



Four scrapers **T** (Fig. 2), with points directed in the opposite direction to which the mortar **D** is turning, serve to keep the screen **D6**, clear on the inside.

18 *typed pages*, 29 *claims*; 3 *fols. drgs.*, 8 *figs.*

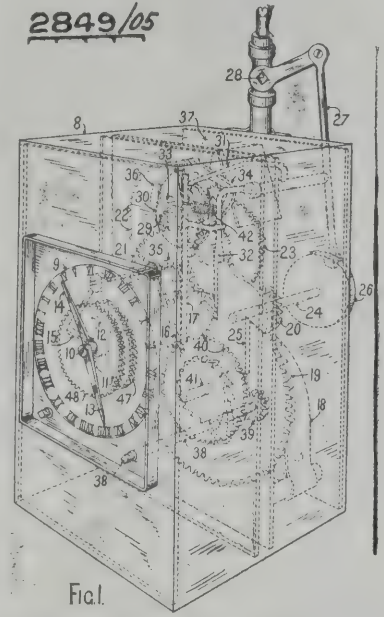
2849. 28 Mar. *C.a.P.* 19 Oct.

W. Howlin, 17 Laura-street, Newtown, N.S.W., builder.

Street lighting-up by clockwork.
Classes 00.1; 22.8.

A clock with a 24-hour dial has a pair of frictionally adjustable snail cams **11.12**, on a 24-hour cannon, which may be set (by notches on attached discs) to the times for turning "on" and "off" the gas or current.

A trigger lever **15** is dropped by each cam, and releases alarm gear which starts the arbor **24**, carrying a two-notch ratchet **25**, and a crank disc **26**, which thus makes a half-revolution at each operation, and alternately opens or closes the cock **28**. On moonlight nights the alarm gear may be locked by a detent **37**.



Alternately, the time clock may be omitted, and the alarm gear released by electromagnets connected to contacts at a central station.

Prov. 3 *typed pages.*
Comp. 6 *typed pages*, 6 *claims*; 1 *fol. drg.*, 9 *figs.*

2850. 28 Dec. *Prov. only.*

C. G. Moore, civil engineer, and J. W. Rock, civil and mechanical engineer, both of 11 Castlereagh-street, Sydney, N.S.W.

"Improvements relating to vehicle wheels."

Classes 93.5; 97.83.

2851. 29 Mar. *Comp. lapsed.*

M. Newton, 95 Elizabeth-street, Sydney, N.S.W., patent attorney (*communicatee of* Count A. de Dion, *act. inv.*, and G. Bouton, *act. inv.*, 3 Rue Meyerbeer, Paris, France, engineers).

"Stop device for handles, controlling levers, and the like."

Class 95.9.

2852. 29 Mar. *Comp. lapsed.*

M. Newton, 95 Elizabeth-street, Sydney, N.S.W., patent attorney (*communicatee of*

Count A. de Dion, *act. inv.*, and G. Bouton, *act. inv.*, 3 Rue Meyerbeer, Paris, France, engineers).

"Disc couplings."

Class 95.9.

2853. 29 Mar. *Comp. lapsed.*

M. Newton, 95 Elizabeth-street, Sydney, N.S.W., patent attorney (*communicatee of* Count A. de Dion, *act. inv.*, and G. Bouton, *act. inv.*, both of 3 Rue Meyerbeer, Paris, France, engineers).

FIG. 1 2853/05

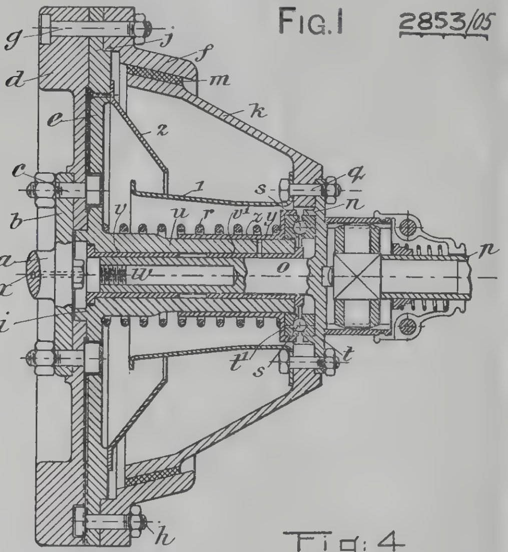
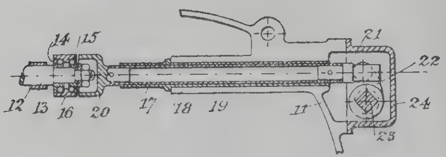


Fig: 4



Automobile clutches with ball-bearing transmissions.

Classes 60.8; 62.8; 95.9.

The cone gearing is attached to the periphery of the flywheel **d**, by easily separated bolts, **g**, **h**, so that the whole gear may be removed in one piece. All the moving and controlling parts are protected from dust by the guard cone **k**. The longitudinal motion of the friction surface **m** is effected by ball thrust bearings **s**. The disconnecting thrust for compressing the spring **r** may be transmitted in any convenient manner, some of which are detailed, with other variations in the general arrangement of equivalent parts.

10 *typed pages*, 4 *claims*; 2 *fols. drgs.*, 5 *figs.*

2854. 29 Mar. *Prov. only.*

E. O'Connell, grocer, and S. E. Price, manufacturer, both of Moorabool-street, Geelong, Vic.

"An improved method of packing jam and other alimentary substances in tins."

Class 57.5.

2855. 29 Mar. *Prov. only.*

M. Walsh, 82 William-street, Melbourne, Vic., farmer.

"Regulating device for seed-drills."

Class 31.1.

2856. 29 Mar. *C.a.P.* 6 Sept.

C. W. Merrill, Lead, South Dakota, U.S.A., metallurgical engineer.

Wash-out filter presses.

Class 28.1.

To enable gang filter presses to be worked more continuously, the caked deposit is removed by streams of liquid without separating the several plates.

In the "closed delivery" press (Figs. 1 to 9), the section of a frame in Figs. 8 and 9 shows passages which form continuous tubes when the plates are locked together; **d** is the inlet for pulp to be treated; **a** is for washing or treating fluids; **y** are nozzles on a stringer pipe **w**, that may be rotated by the end lever **u**, Fig. 1, for use as washing jets; and **o** is an outlet for the removed deposit; **b** represents one or more dovetail ribs formed on the inner surface. The cake forms solidly around the rib, and as the large end of the dovetail projects into the container the cake is prevented from shrinking away from the inner surface of the container or rib, and thus forms a tight joint between the rib and the cake.

The porous filter plates **g** (Figs. 6 and 7), are provided with corresponding openings with lateral groves **8** for distributing the fluids.

In operation, the outlet valves **c** and **c2** are closed, and **c1** is opened, allowing the pulp to enter through the passage **d**, until the plates are sufficiently covered by deposit, when the superfluous liquid is run out by valve **c2**, and the treating or washing material passed in, and finally the jets **y** are used to wash out the precipitate.

Modifications are described for "open delivery" presses.

Prov. 5 *printed pages*, 3 *fols. drgs.*, 21 *figs.*
Comp. 14 *prntd. pp.*, 65 *cls.*; 6 *fols. drgs.*, 27 *figs.*

Fig.1.

2856/05

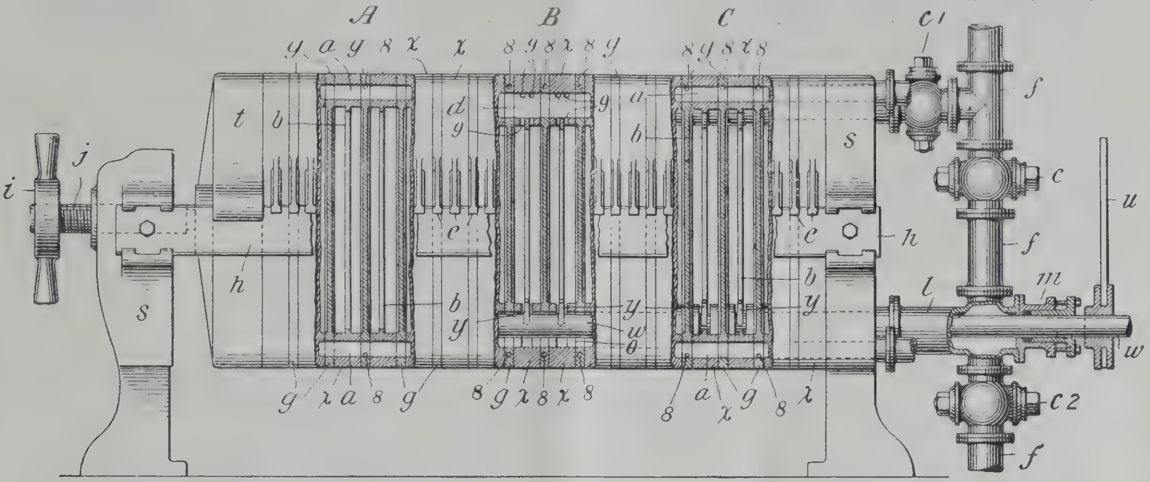


Fig.8.

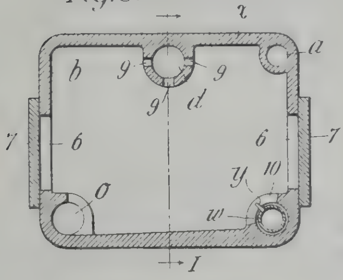


Fig. 9.

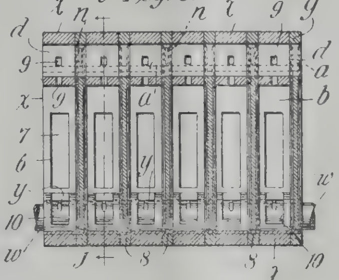


Fig. 6.

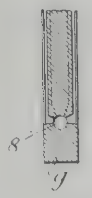
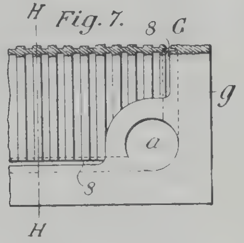


Fig. 7.



2857. 29 Mar. R. H. Wright, Durham, North Carolina, U.S.A., manufacturer.

Packing cigarettes.

Classes 33.4; 57.4; 79.4.

The cigarettes (or similar articles) are agitated in the hopper **103**, Fig. 13, by the rotating brush **119**, so that the tooth spaces of the carrier wheel **121** are filled, and the cigarettes delivered in parallel order down the shoot **128**, at the foot of which they enter a paper box, which has been drawn by the feeder **12**, Fig. 1, from the table **133**, and placed under the plunger **85**, Fig. 2, in the open position shown therein.

Fig. 14.

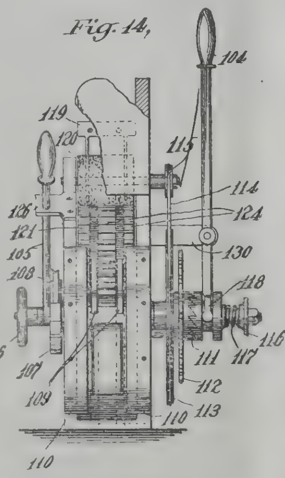
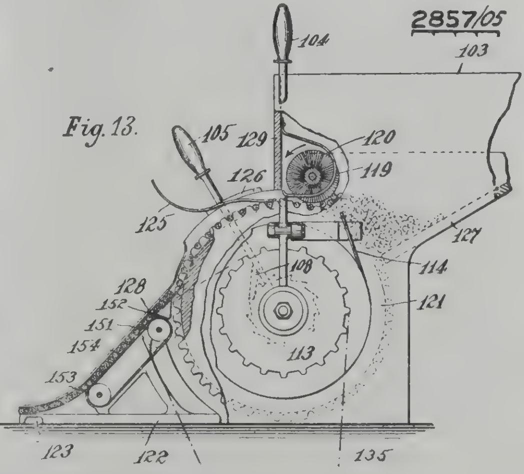


Fig. 13.



At subsequent stages the boxes are handled in successive positions of the carrier turret **51**, Fig 1, which is intermittently operated by the star wheel **158**, and crank pin **145**. A quadrant of these positions is shown enlarged in Fig. 2, each recess in the carrier has a false bottom **53**, which is pushed down, as the plunger **85** depresses the box from the level of table **133**, into the recess.

At the first step of the turret, the long flap (to the right in Fig. 2) of the box meets the lifter **18** (which is simultaneously raised by the stroke of the roller **20**, on cam **90**), and is folded down over the contents.

The pasting wheels **19** have picked a charge of paste from the roller **22**, and when in the dotted position during the second turret step a line of paste is laid on the edges of the long flap, and the boxes slide under the cover guide **55**, and are folded inward over the long flap.

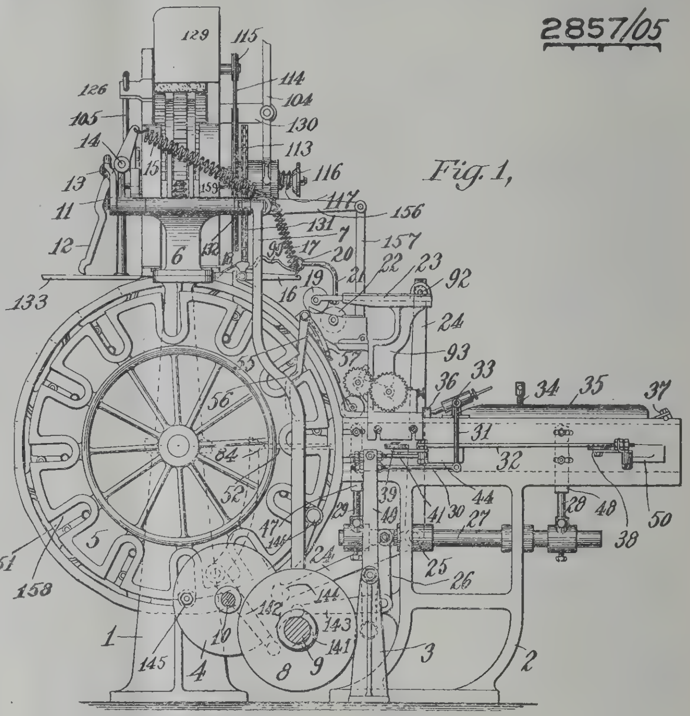
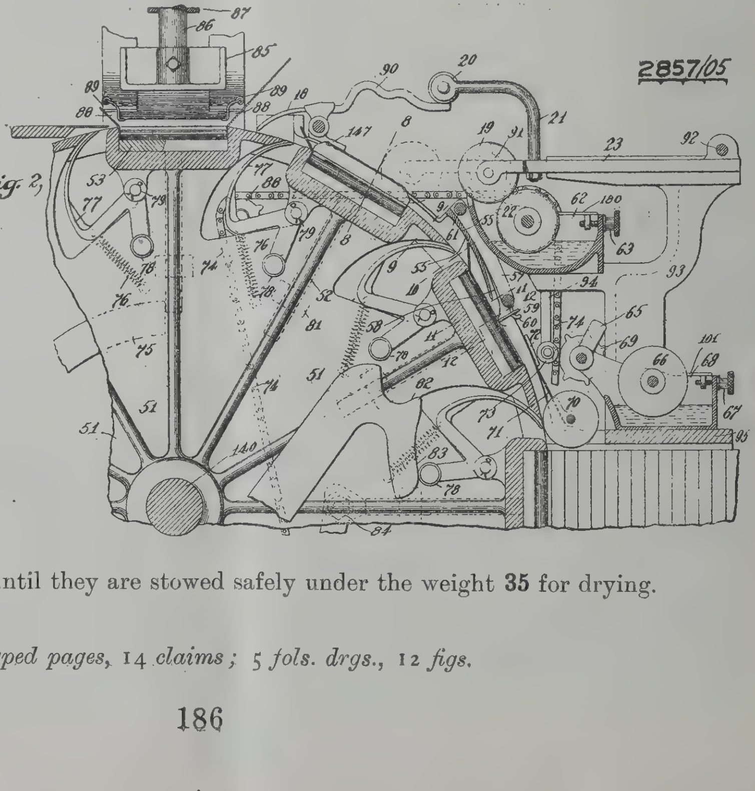


Fig. 1,

At the third turret step the roller **78**, on the tucker **77**, meets the fixed cam **82**, so that the short flap of the box (which has received a spot of paste from the end of the second rotary pasting finger **65**) is pressed down over the other sides. This third step brings the box opposite the end of the collecting shoot, into which the box is transferred by the ejector lever **84** coming in contact with the stem **52** of the false bottom **53**. The ejector **84** is operated as shown in dotted outline, Fig. 1; and the false bottom is again lifted by the cam **75**, at the left of Fig. 2.

Fig. 2,



The mouth of the collector is fitted with cam-operated gripping sides (operated by parts **30** to **50**, &c., Fig. 1) which hold the pasted sides in position until they are stowed safely under the weight **35** for drying.

11 *typed pages*, 14 *claims*; 5 *fols. drgs.*, 12 *figs.*

2858. 29 Mar. E. Phillips, 533 Collins-street, Melbourne, Vic., patent attorney (*communicated by* G. A. Cardwell, *act. inv.*, 101 W. 58th-street, New York, U.S.A., inventor).

Transmitter for printing telegraphs.

Class 05.4.

Systems of four distinctive impulses are utilized :—

(1) Positive impulse.
(2) Negative impulse.
(3) An intermittent positive followed by a short impulse, which may be either positive or negative.
(4) An intermittent negative followed by either a short negative or positive impulse.

These impulses are transmitted by a keyboard instrument, Fig. 2, which, on depressing any particular letter key, completes three or more circuits in a particular succession depending upon the letter selected, and sends the corresponding electrical impulses in proper sequence to the receiving station.

Fig. 3 contains a diagram of the connexions at the transmitting end.

These impulses are classified at the receiving station by selecting magnets and polarized relays.

32 *typed pages,* 2 *claims;* 4 *fols. drgs.,* 5 *figs.*

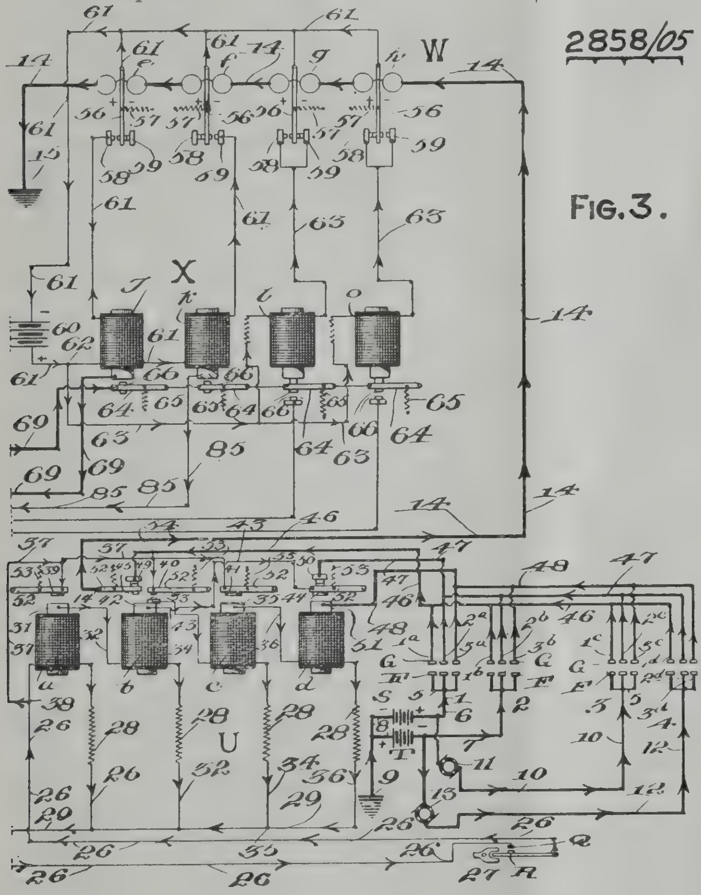


FIG. 3.

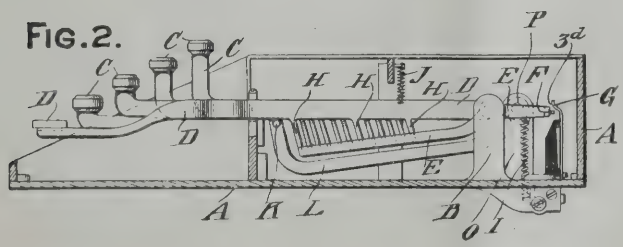


FIG. 2.

2859. 29 Mar. *Prov. only.* H. Smith, 484 Canning-street, Carlton, Vic., tinsmith.

"Improvement in cans for filling lamps and other vessels."

Classes 22.4; 60.9.

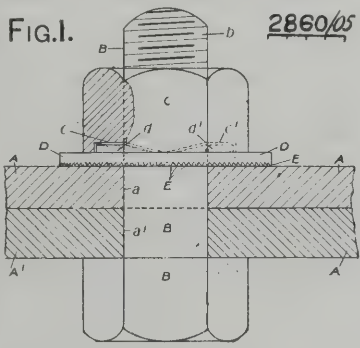
2860. 29 Mar. W. J. Wallett, 5 Equitable Buildings, Durban, Natal, contractor.

Lock nut.

Class 78.4.

The nut is formed with a recess in its underside in which helical projections from the upper surface of the washer engage; the under side of the washer is radially toothed to grip the surface of the article fastened.

FIG. 1.



8 *typed pages,* 4 *claims;* 1 *fol. drg.,* 7 *figs.*

2861. 29 Mar. INGERSOLL-SERGEANT DRILL CO., 26 Cortlandt-street, New York, U.S.A., machinery manufacturers (*assignees of* F. V. D. LONGACRE, *act. inv.*, 26 Cortlandt-street, New York, U.S.A., engineer).

Starting air compressors without heavy starting torque.

Classes 04.7; 61.9; 65.9; 69.4.

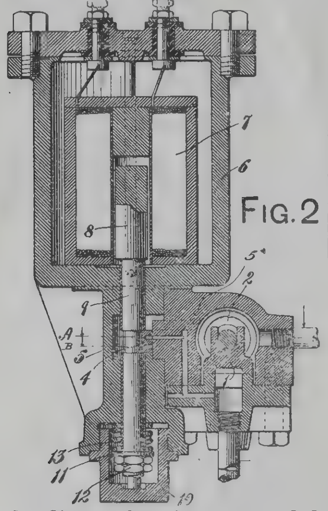


FIG. 2

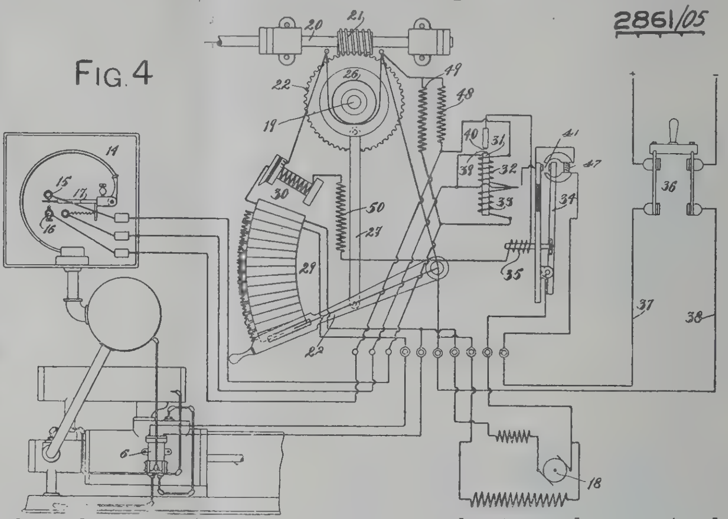


FIG. 4

To reduce the initial current in starting electrically driven air compressors the electric unloading valve is operated before the motor is started, and the pump load is not thrown on the motor driving the air compressor until such motor has run up to speed.

The bourdon tube **14**, Fig. 4, in communication with the main air reservoir operates a two-way switch **17**, when the pressure in the air accumulator reaches the maximum or minimum. This two-way switch controls a magnetic relay **31**, which in turn controls the circuit of a magnetically operated motor switch **34**. The motor started is mechanically connected by worm gearing to the magnetic clutch **26**, operating the starting switch **28**.

The unloader, Fig. 2, has a small valve **4** (operated by a solenoid **7** in series with main motor circuit) which controls the release valves.

To start the pumps when the air pressure has fallen to the minimum, the two-way switch **17**, short circuits **33**, closes **40**, and completes circuits **35**, **26** and **30**, closing contact **41**, and starting the motor **18**, through the first point of the rheostat **29**, and the magnetic clutch **26** gradually lifts the arm **28**, which is held up by magnet **30**. On closing the motor circuit the unloader opens both sides of the air compressor piston to the atmosphere. As the motor runs up to speed, so the starting switch **28** is operated, until it reaches the last notch, when the unloader circuit **7** is short circuited, and the compressor is connected to the main reservoir.

When the pressure in the reservoir has risen sufficiently high the bourdon tube throws over the two-way switch **17**, short circuits the magnetic control of the main switch **34**, and cuts out the motor; the magnet **30** is also released, and the arm **28** allowed to fall.

A hand-worked system of starting is also described and illustrated.

10 *typed pages*, 3 *claims*; 3 *fols. drgs.*, 6 *figs.*

2862. 29 Mar. W. S. BAYSTON, Market Buildings, 411 Collins-street, Melbourne, Vic., patent attorney (*communicatee of* Adolf SAVELSBERG, managing director, Ramsbeck, Westphalia).

Application under Sec. 7, patented in—

S.A. .. 8811/6418 ... 29 December, 1903.

Vict. and W.A. *are excepted from the Grant.*

Scorifying galena, &c., with lime in converters.

Classes 15.1; 15.5.

When a damped mixture of galena, &c., and 15 to 20 per cent. of limestone is oxidized in a converter in repeated small charges, the previous roasting may be omitted.

A low blast is used until the full charge is collected, when the scorification is completed at higher pressure.

The limestone prevents premature agglomeration, and moderates the temperature; it also promotes inter-reactions with the sulphuric acid and fluxes the silicates.

The mass is turned out and broken up for melting.

6 *typed pages*, 4 *claims*. *No drawing.*

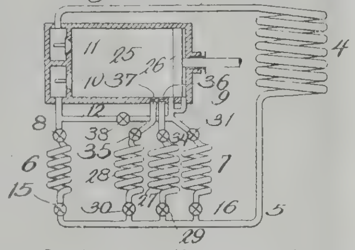
2863. 29 Mar. *C.a.P.* 21 Dec.
G. T. Voorhees, 53 State-street, Boston, Mass., U.S.A., mechanical engineer.

Step-by-step admission for multiple effect compressors for refrigerating.
Classes 29.4 ; 69.4.

A system of refrigeration wherein fluid received at stepped pressures are compressed to a common higher pressure in a single compressor.

Diagram (Fig. 4) shows a compressor cylinder **25**, having inlet and discharge valves **10** and **11**, a pipe **3**, leading to a refrigerating condenser **4**, the return pipe **5** which is connected to the expansion circuits **6**, **7**, **27**, **28**, with appropriate expansion valves **15**, **16**, **29**, and **30** respectively.

Fig-4 2863/05



The return pipe **9**, of circuit **7**, communicates with the compression cylinder near the opposite end to that to which circuit **6** is connected; other return pipes connect expansion circuits **27** and **28** with the compression cylinder close to the inlet **9**; all return pipes are provided with valves for shutting any expansion circuit when desired.

Admission valves **36** and **37** are provided for circuits **27** and **28**. A pipe **12** connects return pipes **8** and **9** of circuits **6** and **7**, but **12** is provided with a valve **38**, which is closed when expansion circuit **7** is in use.

The operation is as follows:—During the suction stroke of the compressor piston, the gas from that expansion circuit in which the lowest pressure is maintained is first admitted to the cylinder, but at a suitable point in such stroke the gas of next higher pressure is admitted, and caused to mingle with the gas of lower pressure already in the cylinder, the pressure in the cylinder being thereby raised to that of the second expansion circuit, and so on. In this way, when the end of the suction stroke is reached the piston will have drawn gas from each of the expansion circuits, and the pressure in the cylinder at the beginning of the compression stroke will be approximately the highest back pressure dealt with. When the desired pressure is reached, the discharge valve opens **11**, and the compressed gas flows to the expansion circuits in the ordinary way.

Prov. 10 *typed pages*; 1 *fol. drg.*; 8 *figs.*
Comp. 12 *typed pp.*, 2 *claims*; 1 *fol. drg.*, 8 *figs.*

FIG. I. 2864/05

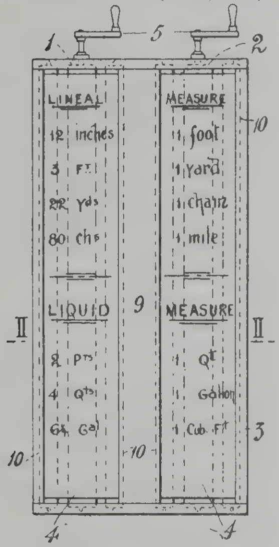


Fig-3-

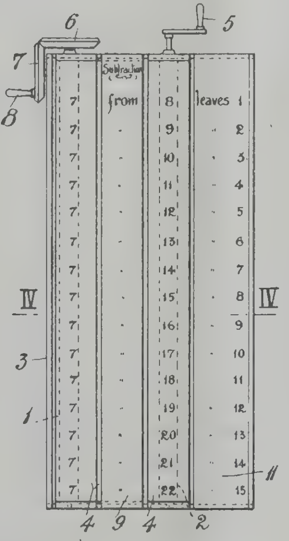


FIG. 2.

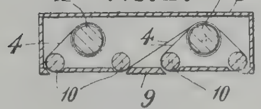
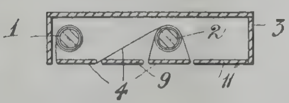


Fig-4-



2864. 29 Mar. *C.a.P.* 22 Dec.

J. T. Keane, *LL.B.*, Knowsley, Vic., school teacher.

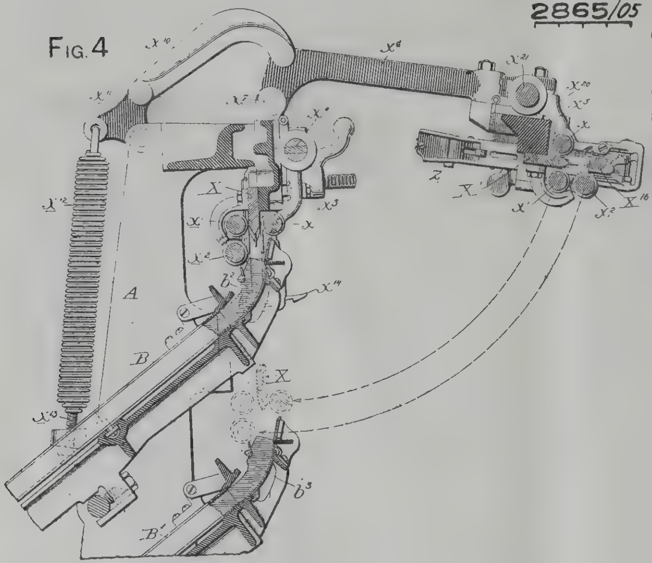
Displaying school diagrams.
Class 49.6.

A pair of vertical rollers **1** and **2** (Fig. 1) carry a diagram on a band which may be wound from one to the other by the handle **5**; or by bevel gear **6** and **7**, as in Fig. 2. Corresponding sets of figures arranged on opposite faces of linen are exposed simultaneously by the arrangements of convolutions shown in Figs. 2, and 4.

Prov. 2 *typed pages.*
Comp. 3 *typed pages,* 1 *claim;* 1 *fol. drg.*, 4 *figs.*

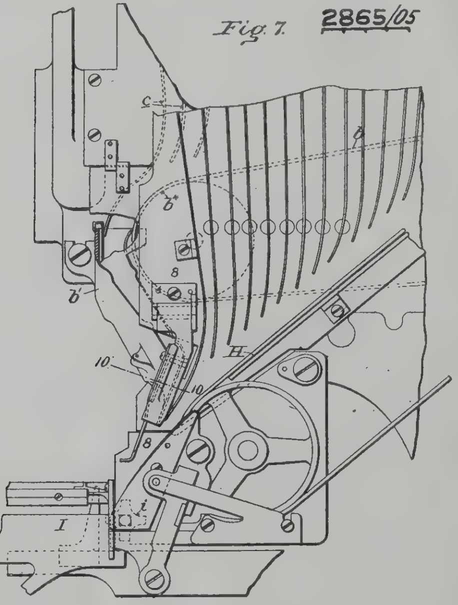
2865. 29 Mar. MERGENTHALER LINOTYPE COMPANY, Tribune Building, New York, U.S.A. (*assignees of* J. R. ROGERS, *act. inv.*, 20 Ryerson-street, Brooklyn, Kings, New York, U.S.A., mechanical expert).

Two-magazine linotypes.
Class 50.5.



To improve the access to the upper end of the lower magazine **B1**, Fig. the lower distributing mechanism is attached to a bar **x5**, which may be swung upward on the radial arms **x6**; the weight is balanced by the springs **x12**, which are connected by linkages **x10**, **x11**, arranged to give a negligable (or slightly negative) lifting moment when in the lower position (spring **x12** being then at maximum tension), and a steadily increasing moment (as the spring slackens and the weight-moment increases) up to the position in Fig. 4.

The carrier belt **b** and guides **c** (dotted outlines Fig. 7) for the lower magazine are in a plane behind the guides and belt **H** for the upper magazine; the belt **b** is given greater slope than formerly, and the points of the guides **c** are curved to lay the matrices in the direction of the belt. The curved shoot **b1**, which brings the matrices from the back towards the assembler **I**, has spring plates at the bends to reduce the blow and wear, and also hinged covers that may be easily opened if the passages are clogged. These modifications promote rapid operation and prevent transposition of matrices by loss of time in crossing the magazine width.

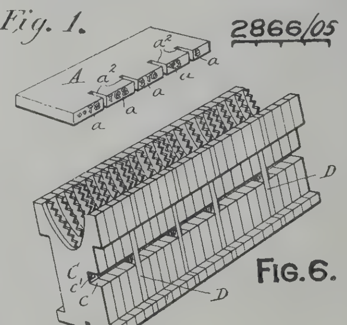


13 *typed pages*, 19 *claims*; 6 *fols. drgs.*, 11 *figs.*

2866. 29 March. MERGENTHALER LINOTYPE COMPANY, Tribune Building, New York, U.S.A., manufacturers of linotype machines (*assignees of* J. R. ROGERS, *act. inv.*, 20 Ryerson-street, Brooklyn, New York, U.S.A., mechanical expert).

Tabular slotted linotypes; matrices.
Class 50.5.

To insure accurate alignment of vertical rules in tabular linotypes, they are inserted in slots **a2**, Fig 1, formed transversely across slugs comprising several columns of tabular matter; hitherto these slots have been sawn in ordinary slugs.



The matrices **C**, Fig. 6, for this purpose have the type surface **c1**, set much deeper than usual, and the depth of the mould slot in the casting wheel is reduced by the same depth, the lower part of the bar being moulded in the wheel, and the upper part (for the depth of the rule slot) in the gap **c**, in the matrix; the matrix **D** for the rule slot is quite plain, and has no depression.

8 *typed pages*, 9 *claims*; 1 *fol. drg.*, 7 *figs.*

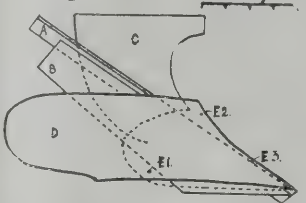
2867. 30 Mar. *C.a.P.* 23 Dec.

E. H. J. Mitchell, *act. inv.*, Mayfield, Tas., farmer, and B. F. Mellor, *assignee*, Moonee Ponds, Vic., manufacturer.

Shares with edges protrudable after wear.
Class 30.3.

The share is composed of two thin steel plates, one narrow, **A**, to act as the point of the share, and a wider one, **B**, to act as the share wing. The plates **A** and **B** may be of any suitable shape, and are of equal thickness from front to back; they are clamped in position between the frame **C** and the mould board **D** by the bolts **E1**, **E2**, and **E3**.

Fig. 6



As the protruding parts of the cutting point **A** and the wing **B** wear, they can be knocked forward with a hammer for adjustment like a carpenter's plane iron.

Prov. 2 *MS. pages.*
Comp. 4 *typ. pages*, 3 *claims*; 1 *fol. drg.*, 7 *figs.*

2868. 30 Mar. *Prov. only.*

J. Attwill, 193 Hay street, Perth, W.A., railway booking clerk.

"Improvements in railway ticket dating machines."

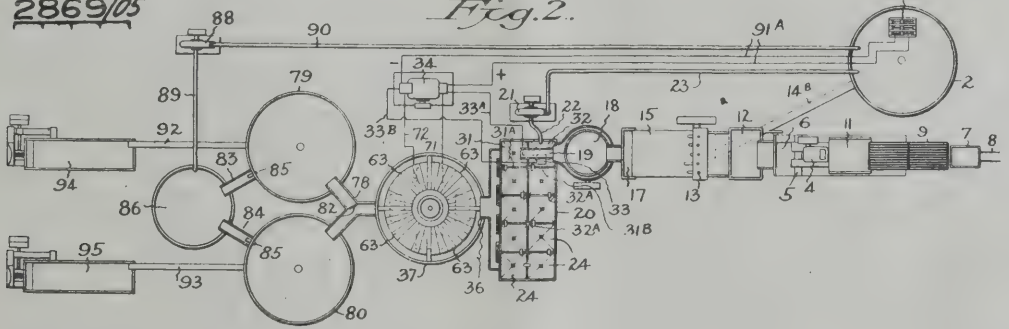
Class 50.7.

2869. 30 Mar. W. A. Hendryx, Hotel Angeles, Fourth and Spring streets, Los Angeles, Cal., U.S.A., physician.

Process and plant for complex ores.
Classes 07.5; 07.6; 14.4; 14.7.

The plant, Fig. 2, is arranged on a hillside in terraces; at the top the ore is passed over a grizzly **9**, the coarse ore passing to a rock-breaker **4**, and the crushed ore falling into the bin **6**; an automatic feeder **12** delivers it to stamps **13**.

Fig. 2.



The stamp mortars are supplied with a weak cyanide or other chemical solution from the store tank **2**; ore-pulp runs over an amalgamated plate **15**, and is further ground in a Chilian mill **18**.

From a second amalgamated plate **19**, the pulp discharged into a large storage and grading tank **20**, where deleterious acid salts are neutralized; the pulp first flows in succession through compartments **31** to **32**, which have notches in the partitions between each pair gradually increasing in depth; the clarified solution is withdrawn by a pump **21** from the last compartment and returned to the tank **2**; the compartments have separate valves for selecting classified portions which pass along launders **36**, into the tank **37**, to make a fixed charge of the required consistency.

In this tank **37**, Fig. 3, the principal leaching by cyanide and other chemicals is performed, accompanied by long agitation, aerating, and electrolysis. The tank has a central vertical circulating tube **58**, inside which are screw propellers **56**, driven from above; the ore-pulp rising through the casing **58**, is discharged over the conical distributing-plate **62**, where it is aerated. A cage-valve, **42** to **48**, is fitted at the bottom for discharging.

Each group of electrodes is supported in a framing **68**, carbon anodes alternating with lead cathodes; the current from the generator **34** also supplies electrodes in the compartment **32** and the stock-liquor tank **2**; the tank **3** is heated by coiled steam pipes **73**, **74**.

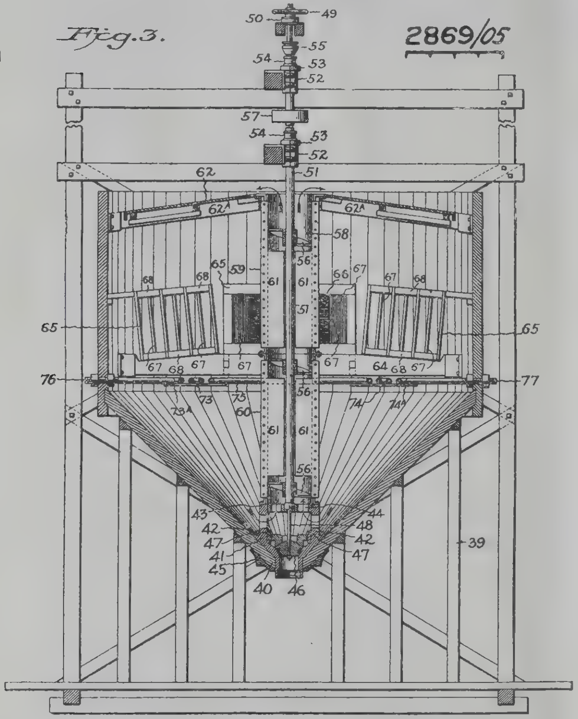


Fig. 3.

2869/05

From the tank **37** the solution is alternately run into settling tanks **79**, **80**, the Y-launder **78** having a hinged gate **82**; the clear solution is decanted into launders **83**, **84** by a hose or pipe (or it is run off through plugs **85** at different levels in the tanks) into a sump tank **86**, and pumped back to the stock tank **2**.

Twelve objects to be obtained by the process are stated at some length.

43 *typed pages*, 14 *claims*; 3 *fols. drgs.*, 6 *figs.*

2870. 30 Mar. W. A. Hendryx, Hotel Angeles, corner of Fourth and Spring streets, Los Angeles, Cal., U.S.A., physician and surgeon.

Electric mixing, leaching and aerating vat for ores.

Classes 07.6; 10.8; 14.7.

This vat is somewhat varied in detail from that used in 2869/05, and further details are illustrated.

The valve spindle **12** passes down the tubular propeller shaft which is supported on ball bearings **18A**; the circulating tube **30** has internal ribs to prevent swirling; the apertures in the valve-seat cage **28**, giving access to the casing, have adjustable gates which may be clamped in position after adjustment.

The distributing-plate **33** is provided with four trap-doors which permit the insertion and removal of the groups of electrodes **46**, **47**, which are carried on a staging **44**.

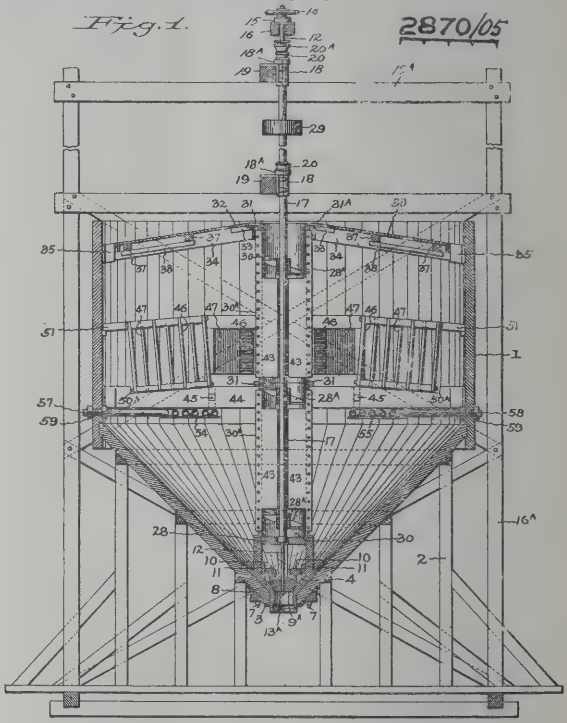


Fig. 1.

2870/05

The solution may sometimes be passed downwards through the propeller casing, and the distributing-table dispensed with, the solutions absorbing their oxygen as they come to the surface to enter the propeller casing.

49 *typed pages*, 77 *claims*; 4 *fols. drgs.*, 13 *figs.*

2871. 30 Mar. *Prov. only.*

W. Fels, 95 Richardson-street, N. Carlton, Vic., salesman.

"A parlour game of skill."

Class 53.6.

2872. 30 Mar. T. P. Rudkins, Mitiamo, Vic., farmer and commission agent.

Lever operated bag lift, &c., for railway platform or vehicles.

Class 59.1.

A fixed frame **B** is stayed to the floor of a waggon (or other platform) and has a rock shaft **E**, linked to the swinging frame **H**; the lever **I** has a socket **I1** for a lengthening bar.

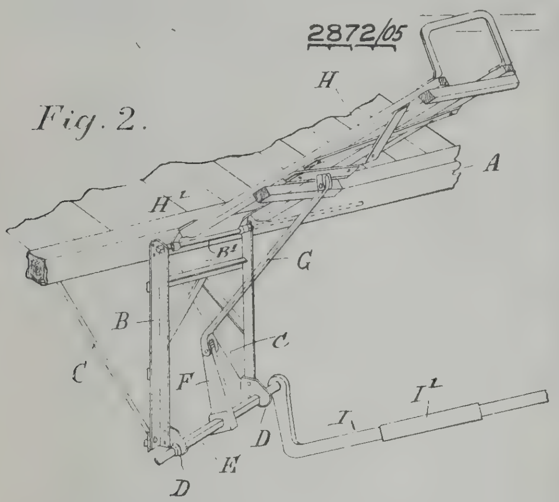


Fig. 2.

The frame **H** has an iron foot and may be detached and fitted with wheels to serve as a bag truck, &c.

4 *typed pages*, 6 *claims*; 1 *fol. drg.*, 2 *figs.*

2873. 30 Mar. *Prov. only.*

J. D. JACKSON, 10 Sturt-street, South Melbourne, Vic., plumber, and Elsie M. MACLEAN, 108 Queen-street, Melbourne, Vic., married lady.

"An improved receptacle jar or bottle and means for hermetically sealing the same."

Class 57.5.

2874. 30 Mar. *Prov. only.*

A. E. JOHN, *act. inv.*, Yeungroon, *viâ* Wedderburn, Vic., traveller; J. T. JOHN, *assignee*, and W. A. JOHN, *assignee*, both of Wedderburn, Vic., bootmakers, and S. JOHN, *assignee*, Kerang, Vic., bootmaker.

"An improved bobbinless centre-pivot shuttle for sewing machines."

Class 42.3.

2875. 30 Mar. *Prov. only.*

J. W. ROCK, 95 Elizabeth-street, Sydney, N.S.W., engineer.

"An improved mode of supplying motive power to engines."

Class 63.6.

2876. 31 Mar. *Prov. only.*

J. DONALD, 229 Hyde-street, Yarraville, Vic., tanner.

"Improved puncture-proof armour for pneumatic tyres."

Class 97.89.

2877. 31 Mar. *C.a.P.* 26 Sept.

J. H. THOMAS, 153 Archer-street, North Adelaide, S.A., mechanical engineer.

Salted tar-paving.
Classes 18.7; 81.7.

The pavement is composed of the usual broken stone and tar, laid in one or more layers; to prevent cracking 10 per cent. of crushed chloride of sodium or crushed rock-salt is mixed with the screenings for the top layers, and half that quantity in the intermediate layer.

Prov. 1 *MS. page.*
Comp. 3 *typed pages*, 4 *claims*. *No drawing.*

2878. 31 Mar. *Prov. only.*

A. J. POINTON, Willaston, near Gawler, S.A., blacksmith.

"Improvements in stump-jumping cultivating implements."

Class 30.9.

2879. 31 Mar. *Prov. only.*

J. E. WILLERSDORF, Burgundy-street, Coburg, Vic., traveller.

"Non-puncture tyre or cover for pneumatic wheels and motor vehicles."

Class 97.89.

2880. 31 Mar. *Prov. only.*

J. K. BRIERLEY, Sackville-street, Bexley, N.S.W., carpenter, and J. J. S. LIST, Wazir-street, Arncliffe, N.S.W., engineer (*communicatees of* T. BRIERLEY, *act. inv.*, Blackpool, Eng., carpenter).

"Improvements relating to safety clip hooks for suspending pictures or the like."

Class 78.2.

2881. 31 Mar. *C.a.P.* 3 Jan., 1906.

J. K. BRIERLEY, Sackville-street, Bexley, N.S.W., carpenter, and J. J. S. LIST, Wazir street, Ancliffe, N.S.W., engineer (*communicatees of* T. Brierley, *act. inv.*, Blackpool, Eng., carpenter).

Aerial trolley line or clip.

Classes 03.1 ; 03.4.

The clip has two jaws **A**, **A**, Fig. 3, with grooves **B**, to hold the wire **c**, and conical necks **D**, drawn into the cap piece **C**, by the sliding nut **F**, and screw **I**, which jams the neck piece **D** in the collar **C**, and at the same time clamps the wire **c**.

Shackles **M**, Fig. 1, are attached to the jaws **A** by means of ears **L** and bolts **N**. The bolt or shank **H** may be used for securing the clip in any desired position.

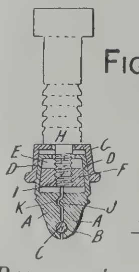


FIG. 3

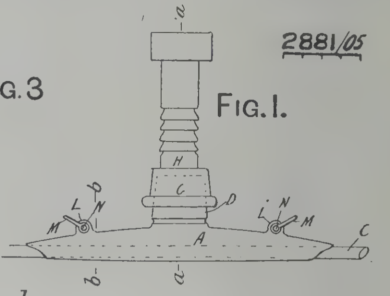


FIG. 1.

Prov. 2 *typed pages.*
Comp. 4 *typed pages,* 3 *claims ;* 1 *fol. drg.*, 4 *figs.*

2882. 31 Mar. *Comp. lapsed.*

J. F. Conigrave, Eagle Chambers, Hay-street, Perth, W.A., patent attorney (*communicatee of* B. H. Thwaite, *act. inv.*, 29 Great George-street, Westminster, London, Eng., engineer.)

Suction dust collection in mines, screens, &c.

Classes 85.9 ; 90.9.

A circular sucker hood **16**, Fig. 6, with a narrow annular opening through which the drill **18** passes, has a spongy rubber collar **17** to make a close fit to the rock ; it is connected by flexible hose to pipe lines laid through the mine leading by a pipe **12** to the washing vessel, Fig. 3, containing lime water or disinfectant.

A suction fan **10**, Fig. 3, draws the air from around the drill through the pipe **12** to the washer **1**, where it passes around baffles **3** and **4** several times through the water to the fan, into which water may be sprayed ; the air may be exhausted either through a wool filter fixed to the vessel **1** or may be piped back to the working face. The washing vessel may be mounted on tram wheels **7**, to run on wheels **8**.

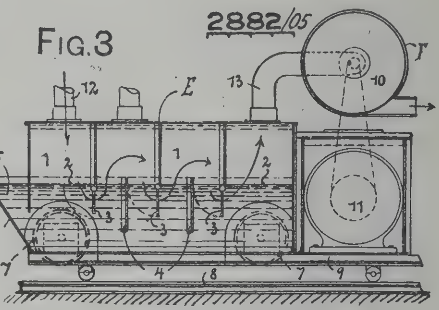


FIG. 3

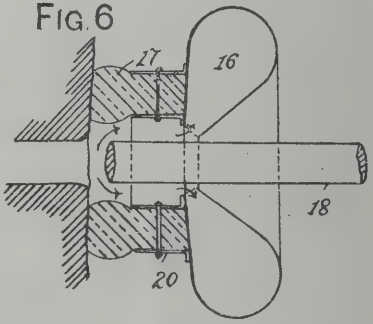


FIG. 6

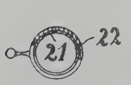


Fig 9

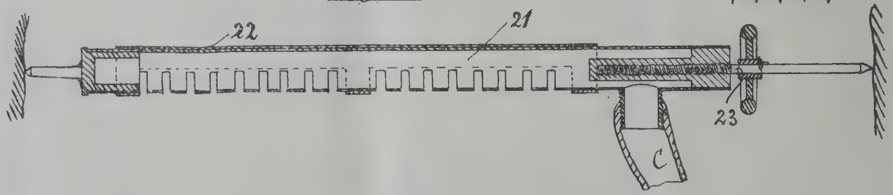


Fig 8

To collect the gases from the levels after firing a jack-pipe **21** is fixed across the drive near the roof by a screw **23** ; the air is sucked in through slits, the area of which may be adjusted by a movable sleeve **22**.

8 *typed pages,* 6 *claims ;* 4 *fols. drgs.*, 10 *figs.*

2883. 1 Apr. *Prov. only.*

W. Seal, Yea, Vic., mechanical engineer.

"Improvements in double-acting pumps and cognate mechanism."

Class 68.3.

2884. 3 Apr. *Prov. only.*

R. J. C. Swan, Great Northern-road, Gladesville, N.S.W., timber merchant.

"An improved steam engine."

Class 64.2.

2885. 3 Apr. *C.a.P.* 21 Dec.

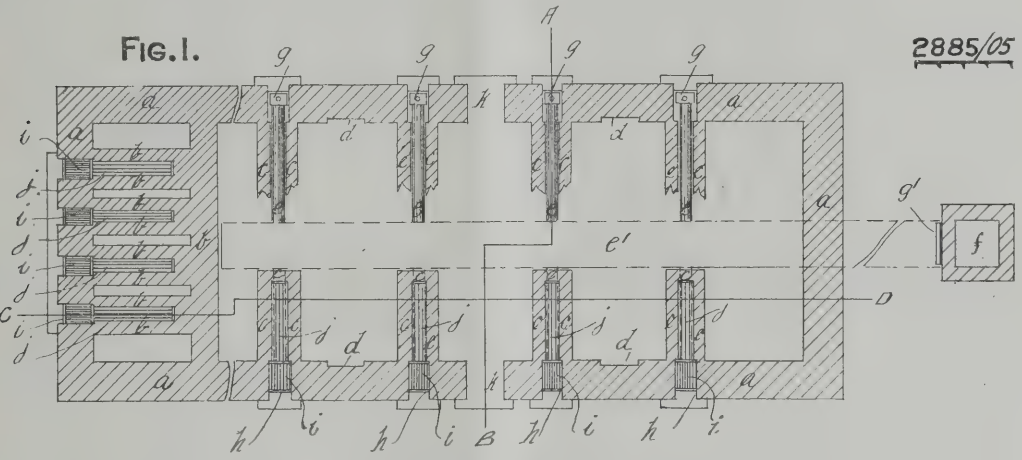
W. Brittain, Dinmore, Qld., brickmaker.

Regenerative brick kiln.

Classes 16.1; 19.1.

In compartment kilns as Fig. 1, the main flue **E1** is carried through the whole length to the stack **f**; branch flues **e**, with dampers **g**, connect it to each furnace.

Fig. I.



The front bars **i**, of each furnace, slope forwardly and upwards from the horizontal bars **j**. The side walls have recesses **d** to receive brick "cut-off" or dividing walls separating the sections; **k** are charging openings.

The kiln is charged in sections with green bricks up to one of the recesses **d** in the side walls, when a cavity wall of bricks is built across, the furnaces are lighted, a curtain is inserted in cavity wall, and the heat passes through the stacked up bricks.

When the first section of the bricks is sufficiently burnt, the kiln is again charged with green bricks, the openings in rear of the cut-off are hermetically sealed, the curtain removed from the cavity wall, the side furnaces lighted, and a side furnace damper ahead of the batch of bricks opened, which draws the heat absorbed by the first batch, and is thus utilized for assisting the burning of the second batch.

When all the heat has been drawn out of the first section, the cavity wall is filled in with ashes or earth forming a complete "cut off," and the first batch of bricks can be removed from the kiln.

Prov. 3 *typed pages.*
Comp. 5 *typed pages*, 4 *claims;* 4 *fol. drg.*, 5 *figs.*

2886. 3 Apr. *Prov. only.*

W. Fullerton, Fryerstown, Vic., engine-driver.

"An improved combined portable acetylene gas generator and lamp."

Class 21.81.

2887. 3 Apr. *Prov. only.*

G. Keenan, 82 William-street, Melbourne, Vic., carpenter.

"Combination tray for invalids and domestic use generally."

Classes 45.3; 87.3.

2888. 3 Apr. *Comp. lapsed.*

Amy E. Parker, "Brookside," Burwood-road, Enfield, N.S.W.

"Revolving or sliding tray for incubators."

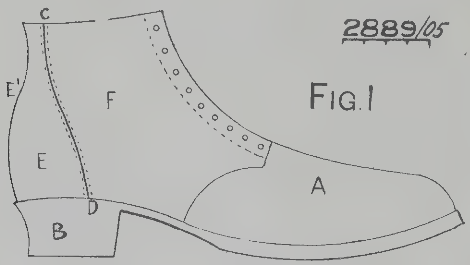
Class 38.3.

2889. 3 Apr. P. R. Sargood and W. E. Sargood, both of Dunedin, N.Z., merchants.

Boot uppers, solid back.

Class 44.1.

To obviate back seams at **E1**, the back portion **E** of the uppers of boots and shoes is formed in a solid piece (much wider than the ordinary cover strap) with a seam **C**, **D** at each side.



3 *typed pages*, 2 *claims* ; 1 *fol. drg.*, 4 *figs.*

2890. 3 Apr. *Prov. only.*

J. T. Vercoe, 100 Armstrong-street north, Ballarat, Vic., engineer.

"Improvement in design and construction of oil engines."

Class 66.2.

2891. 3 Apr. *Comp. lapsed.*

G. Barnes, Berry-street, N. Sydney, N.S.W., inventor.

"An improved curtain suspender."

Class 46.6.

2892. 3 Apr. *Prov. only.*

W. R. Hume, 75 King William-street, Adelaide, S.A., machinist.

"An improved stand or holder for flower-pots and the like."

Classes 31.4; 78.9.

2893. 4 Apr. *Prov. only.*

W. Tyree, 36 Pitt-street, Sydney, N.S.W., manager of the Acetylene Gas Co. of Australasia, Ltd.

"Improvements in acetylene gas generators."

Class 21.89.

2894. 4 Apr. *Prov. only.*

W. Tyree, 36 Pitt-street, Sydney, N.S.W., manager of the Acetylene Gas Co. of Australasia, Ltd.

"Improvements in acetylene gas table lamps."

Class 21.89.

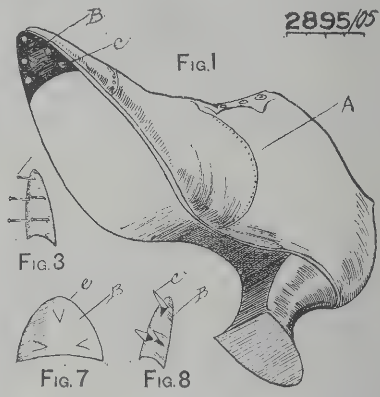
2895. 4 Apr. *C.a.P.* 5 Sept.

L. H. Hicks, 77 Pascoe-street, Williamstown, Vic., artificial limb maker, and A. N. Cooke, 58 Cubitt-street, Richmond, Vic., surgical instrument maker.

Toe-plates for ladies' boots.

Class 44.3.

In Figs. 1 and 3 a thin dished plate of steel or other metal is fastened under the sole by ordinary taper boot rivets; in Figs. 7 and 8 three V-shaped spikes stamped out of the body of the plate are provided for attachment.



Prov. 2 *MS. pages.*
Comp. 4 *MS. pages*, 2 *claims*; 1 *fol. drg.*, 9 *figs.*

2896. 5 Apr. *Prov. only.*

J. W. MacDonald, Point Nepean-road, N. Brighton, Vic., engineer.

"A pneumatic tyre metal shield."

Class 97.89.

2897. 5 Apr. *Prov. only.*

W. F. Dann, Ryrie-street, Geelong, Vic., miller.

"Improved device for releasing the shafts of vehicles."

Class 93.7.

2898. 5 Apr. *Prov. only.*

Ellen Dugan, 11 Portland-place, South Yarra, Vic., gentlewoman (*assignee of* F. J. Corbett, *act. inv.*, 11 Portland-place, South Yarra, Vic.).

"An improved self-filling siphon."

Class 22.4

2899. 5 Apr. H. Thompson, High-street, Heathcote, Vic., watchmaker.

Cycle pedal clips; balance box.
Classes 94.5; 94.9.

The toe-clip on the pedal is counterbalanced by a cylindrical metal case **A**, containing weights; the case is attached by a clip **R**, and screw **U**, and is adjustably loaded by lead discs which are steadied by a spiral spring.

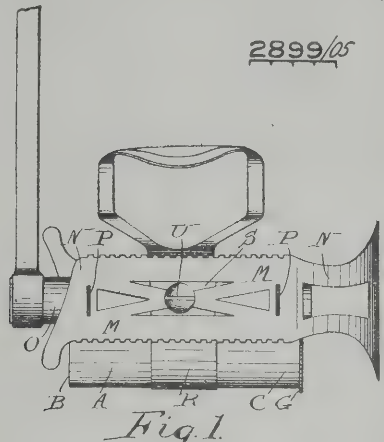


Fig. 1.

8 typed pages, 2 claims; 1 fol. drg., 6 figs.

2900. 5 Apr. *Prov. only.*

J. B. Crump, Bullarook, Vic., farmer.

"An improved potato or potato seed planter."

Class 31.1.

2901. 5 Apr. *C.a.P.* 5 Jan., 1906.

E. N. Travers, Canowie Belt, S.A., farmer.

Stripper teeth; adjustable opening.
Class 32.3.

FIG. 1.

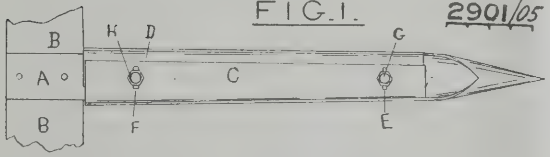


FIG. 2.

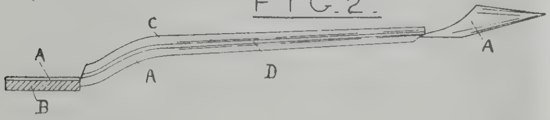


FIG. 3.

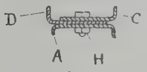
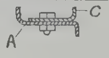


FIG. 5.



The tooth is made of a channelled steel plate secured to the comb bar **B**, stiffened by bending its two edges downwards **A**, Fig. 3; the operating edges are the upturned edges of upper plates **C** and **D**, having transverse slots **E** and **F** for bolting in adjustable width to the central fixed portion **A**.

An alternative, Fig. 5, has one edge of the fixed plate **A** turned upwards, and only one adjustable edge **C** is then required.

Prov. 2 typed pages.
Comp. 3 typed pages, 4 claims; 1 fol. drg., 5 figs.

2902. 5 Apr. F. G. Price, 31 Dalhousie-square, Calcutta, British India, engineer.

Domed washer for corrugated sheets.
Classes 73.2; 78.3; 81.4.

To prevent leakage around bolt holes in corrugated iron, the dome shaped washer **1** is used; it is originally spherical, and as it is screwed down on to the ridge or in the hollow of a corrugated sheet it gradually becomes ellipsoidal and the edge adjusts itself closely to the corrugation. The bolt hole in the washer has an outwardly turned lip that sets in a groove in the bolt head.

Fig. 4.

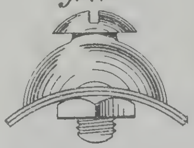
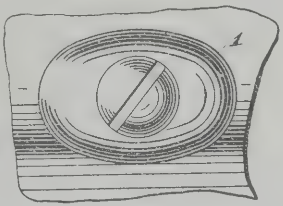


Fig. 3.



5 typed pages, 3 claims; 1 fol. drg., 6 figs.

2903. 5 Apr. *Prov. only.*

J. W. Ellis, Cromwell-street, Caulfield, Vic., butchers' assistant.

"Improved waterproof leather dressing for harness."

Class 39.6.

2904. 5 Apr. W. Little, 25 Clarendon-street, Ballarat, Vic., auctioneer, estate agent, &c.

Jacket for primus stoves.
Classes 24.5; 24.7.

To protect primus stoves from draught when used in the open, a jacket of sheet metal has double walls **a**, **b**, with an air space; openings **u**, **u** at the bottom admit air, and openings **n** and **o** ventilate the jacket; corrugated spiral ribs **f**, on the inner case **a**, hold the billy or pot central, and distribute the hot currents.

7 typed pages, 4 claims; 1 fol. drg., 3 figs.

(For drawing see next page.)

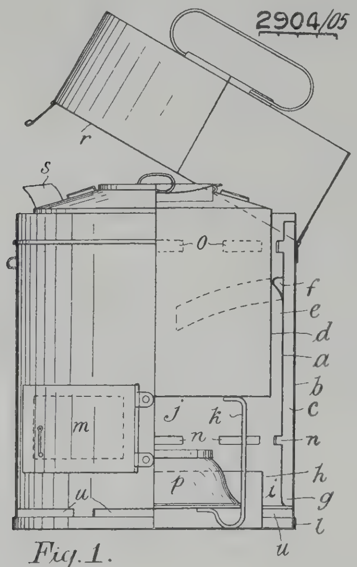


Fig. 1.

2905. 6 Apr. *C.a.P.* 19 Dec.

F. J. Hodges, Carrington-road, Marrickville, N.S.W., contractor.

Cold water paint; kalsomine, &c.
Class 79.3.

Whiting, kaolin, or china clay is mixed or milled with an equal bulk of flour, with or without the admixture of a disinfectant and colouring matter; the powder is sifted, and used with cold water at a suitable consistency.

Prov. 2 typed pages.
Comp. 3 typed pages, 6 claims. No drawing.

2906. 6 Apr. *Comp. lapsed.*

G. L. Croudace, 86 Glassop-street, Balmain, N.S.W., engineer.

Coal Briquettes.
Class 20.2.

The binder contains 50 lbs. of starch and flour which are boiled in 10 gallons of water, and are afterwards diluted with 10 gallons of water containing 5 lbs. of silicate of soda.

Each ton of small coal is ground with 25 lbs. to 28 lbs. of slaked lime, and mixed with 10 gallons of the starch binder, moulded under pressure, and air-dried.

3 typed pages, 2 claims. No drawing.

2907. 6 Apr. *Prov. only.*

C. Durrough, Lismore N.S.W., saw-miller.

> "Means for impregnating with paraffin-wax or the like timber from which butter boxes are constructed."

Classes 57.2; 80.1.

2908. 6 Apr. *Prov. only.*

F. E. Babbage, Parkes, N.S.W., accountant.

> "Improvements in anti-fraud bank-notes and other documents."

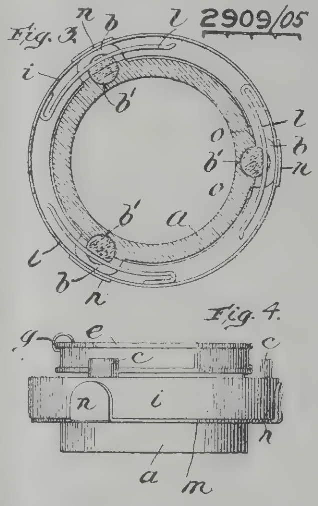
Classes 52.8; 54.5.

2909. 6 Apr. W. A. Stetson, 136 Summer-street, Boston, Mass. U.S.A., merchant (*assignee of* D. Despradelle, *act. inv.*, 31 Beacon-street, Boston, Mass., U.S.A., architect).

Spinning ring with break or clutch.
Classes 40.7; 61.2.

The base ring **A**, Fig. 4, has an upper annular case **i**, carrying three loose posts or blocks **b1**, in sockets **b**; the blocks have grooves in the top part, which embrace and guide the upper ring **e**, Fig 3, and hold it frictionally with the assistance of the springs **l**.

When the drag of the traveller **g** causes rotation of the rings, the centrifugal action releases the grip and allows the ring **e** to move freely; when the spindle stops, the springs close and lock the rings together, thus preventing untwisting and breaking the yarn.



5 typed pages, 5 claims; 1 fol. drg., 7 figs.

2910. 6 Apr. *Prov. only.*

J. Spence, 41 Cecil-street, Ashfield, N.S.W., railway carriage builder.

> "Improvements in window furniture for checking and holding sliding sashes."

Class 78.7.

2911. 6 Apr. *Prov. only.*

W. H. Holt, "Corra Lynn," Hartington-street, Elsternwick, Vic., wicker-worker.

> "Improvements in the safety springs of go-carts."

Class 93.2.

2912. 6 Apr. G. S. A. Ranking, 17 Elysium-row, Calcutta, India, colonel.

Coupled triggers for boat-falls.
Class 91.4.

At each end of the boat is a fall hook **1**, on a lever with a back arm and spherical roller **9**; the roller is supported by a rotatable helical cam **10**, on a vertical shaft **13**; the shafts are linked to a hand lever **20**, at mid ships (with a steady pin) which simultaneously releases both ends.

Fig. 1. Contd.

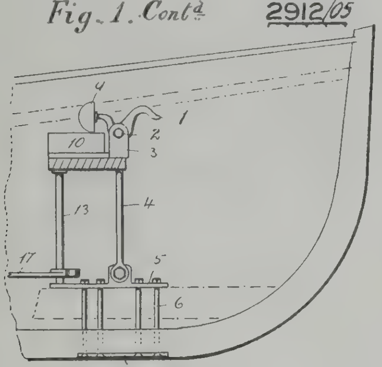
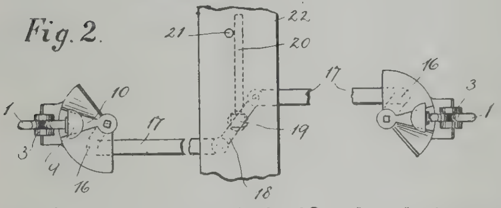


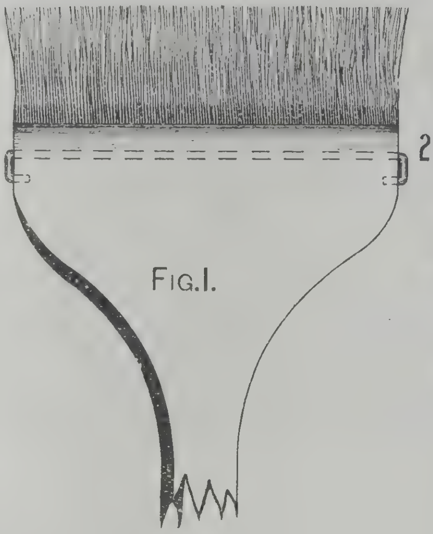
Fig. 2.

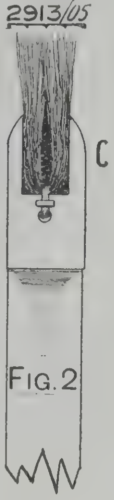


6 *typed pages*, 5 *claims*; 2 *fols. drgs.*, 5 *figs.*

2913. 6 Apr. L. G. Abrams, Phoenix Chambers, 158 Pitt-street, Sydney, N.S.W., manufacturer (*assignee of* J. Matherson, *act. inv.*).

Flat brushes; securing bristles.
Class 25.8.





The bristles (of flat brushes which are inserted in a groove across the end of the handle) are secured by folding around the wire (shown in dotted lines in Fig 1), whose ends are then turned over and driven into the handle, and may be further fastened by a staple or covered by strips of tin plate, &c.

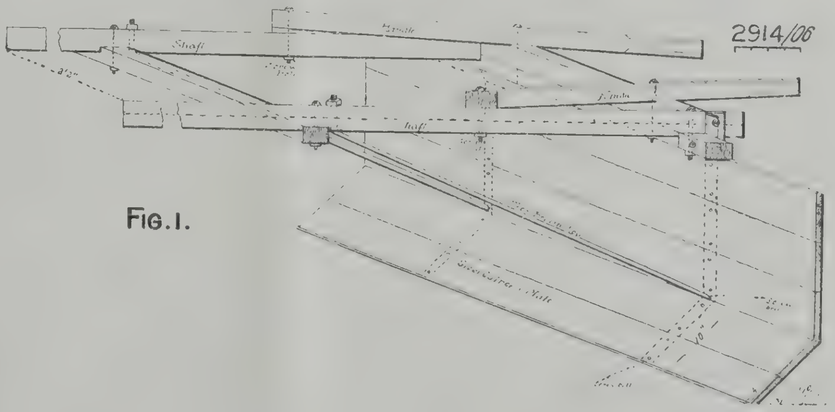
4 *typed pages*, 1 *claim*; 2 *fols. drgs.*, 4 *figs.*

2914. 6 Apr. *C.a.P.* 6 Feb., 1906.
W. Perkins, Clarendon-street, Chilwell, Geelong, Vic., contractor.

Scraper for grading, &c. Classes 31.2; 84.3.

A pair of shafts with cross bars carry at the rear bent L-iron brackets to which is attached a steel edged mouldboard inclined 45 degrees, with a vertical boarding to collect the earth. Two guiding handles running from the shafts and overhanging slightly at the back, enable the operator to force the mould board below the ploughed layer, which is scraped or swept out to where required.

The whole implement is so light that the driver can lift it clear from the ground by the handles, when the shafts are supported by the horse.

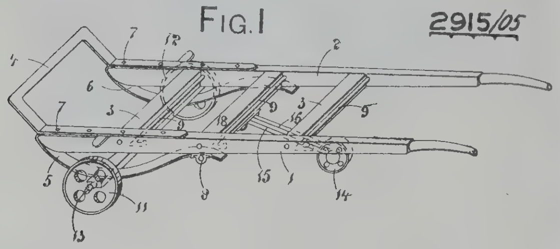


Prov. 2 *MS. pages.* *Comp.* 3 *typed pages*, 1 *claim*; 3 *fols. drgs.*, 3 *figs.*

2915. 6 Apr. T. Kendrick, Argyle-street, Mornington, Otago, N.Z., coachbuilder.

Three-wheeled sack barrow.
Class 93.1.

The main axle **13** (with two front wheels **11**, **12**) is attached to bow springs **5**, the back ends of which pass through brackets **8**, beneath the side bars. A third (trailing) wheel **14** is carried on a swinging bracket **16**, with a curb chain for adjustment.



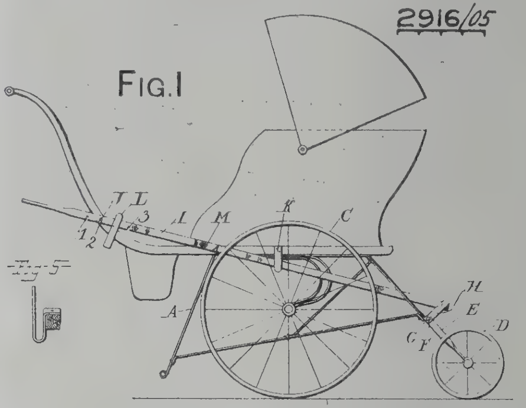
4 *typed pages*, 5 *claims*; 1 *fol. drg.*, 6 *figs.*

2916. 7 Apr. *C.a.P.* 21 June.

G. C. Smith, 57 Odessa-street, St. Kilda, Vic., engineer.

Go-carts, wheel adjustment, &c.
Classes 93.2; 93.3.

The small wheels **D** of a baby-carriage mounted on bent levers **E** can be adjusted by a side-rod **I**, which may be set on the pin **J** at any one of the notches **1**, **2**, or **3** to hold the wheels **D** in the position (as shown) for travelling, raised to surmount obstacles, or depressed to throw the weight on the legs **A**, in which position the brake block **M** locks the large wheel **C**.

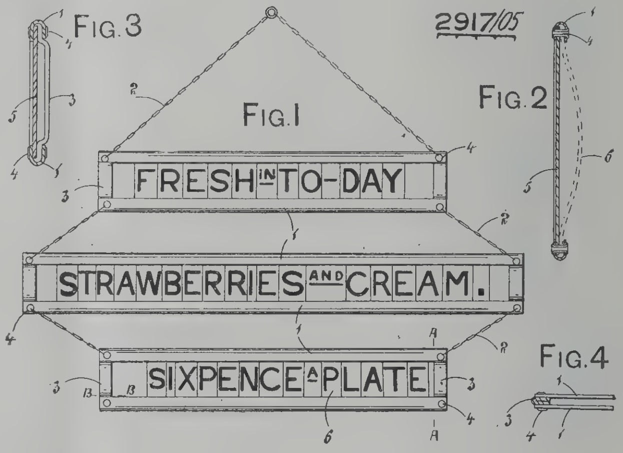


Prov. 3 *typed pages.*
Comp. 6 *typed pages*, 6 *cls.*; 2 *fols. drgs.*, 4 *figs.*

2917. 7 Apr. E. V. Jones, 183 Gloucester-street, Christchurch, Canterbury, N.Z., importer.

Advertisement frames.
Class 54.1.

The frames have edge grooves **1** to hold card letters which may be easily re-arranged, or a single letter or figure may be sprung in without removing the whole notice. The corners are fastened by tubular rivets to which sling chains may be hooked to unite the frames for long notices.



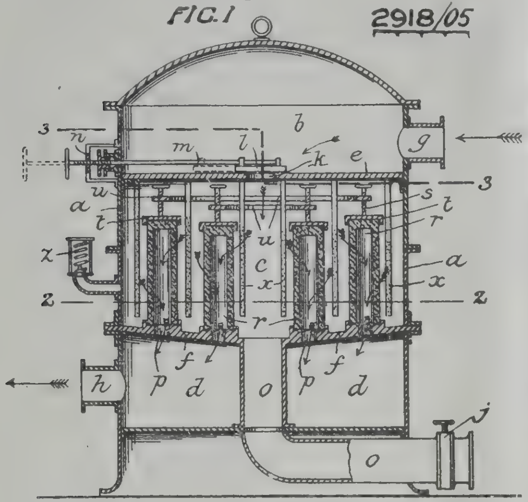
3 *typed pages*, 2 *claims*; 1 *fol. drg.*, 4 *figs.*

2918. 7 Apr. W. Cowern, Hawera, N.Z., estate agent.

Pressure filter; grouped porous candles.
Class 28.1.

The cylindrical case has three compartments, the upper one **b** is connected to the main pipe at **g**, and has a slide valve **l** over a central opening **k** in the partition **e**; the middle chamber **c** has rings of "candles" of porous stone, each clamped by a screw **s** over a hole **p** in the second partition **f**; amongst the candles are spray pipes **x**, depending from the upper chamber; the chamber **c** has a drain pipe **o** (with valve **j**), connected to the depressed centre; the lower chamber **d** collects the filtered water, which passes out at **h**. **Z** is a safety valve.

When the opening **k** is closed and the valve **j** opened, the deposit of mud on the candles may be washed off by the spray from the pipes **x**, and flushed out through **o**.



A case containing a single candle, and a combination of several grouped cases, are also illustrated.

8 *typed pages*, 4 *claims*; 2 *fols. drgs.*, 7 *figs.*

2919. 7 Apr. *Prov. only.*

C. Mills, 33 Ferry-road, Woolston, Canterbury, N.Z., painter and glazier.

"Improved adjustable bracket for employment on windows and ladders."

Class 78.9.

2920. 7 Apr. *Prov. only.*

F. T. Mumford, *act. inv.*, metallurgist, and R. J. Hullneck, *assignee*, contractor, both residing on the property of the Robinson Deep Gold Mining Company Limited, Johannesburg, Transvaal, S. Africa.

"Improvements in and relating to tube-mills, grinding pans, and the like."

Class 10.3.

2921. 7 Apr. *Prov. only.*

W. Telfer, George-street, Southwark, S.A., chemist.

"An improved method of treating rabbits for the extraction of meat and the manufacture of by-products."

Classes 35.1; 35.4.

2922. 7 Apr. *Prov. only.*

H. Reid, 84 Willis-street, Wellington, N.Z., signwriter and advertising contractor.

"Improvements in signs and letters for advertising purposes."

Class 54.1.

2923. 7 Apr. J. J. Reilly, 448 Lygon-street, Carlton, Vic., insurance agent.

Earth banks with netting, for fencing, &c.

Classes 37.8; 81.8.

To construct a barrier which will serve both as a rabbit-proof fence and a fire break, a mould box, Fig 2, is constructed of side planks **J**, supported in frames **E**, **H**, **L**. The soil is previously prepared by ploughing strips of land, which are then watered and mixed by scarifier and plough with chopped straw or grass.

When a section of the mould is rammed full, the side planks are removed by lifting the cap pieces **L** and standards **H**; the bearers **E** may now be withdrawn, and when the first course becomes sufficiently firm the mould box is placed on top and a second course built.

FIG. 1.

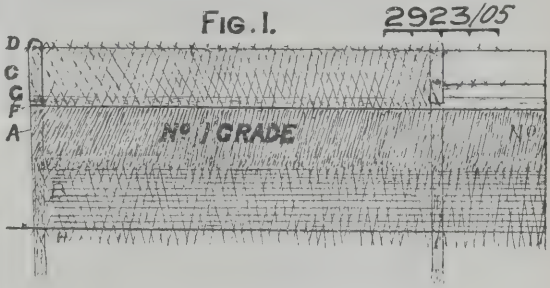


FIG. 2.

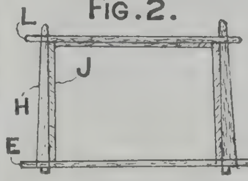
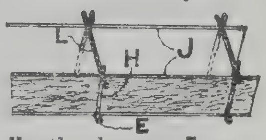


FIG. 3.



Posts and wire netting may be built-in as shown or otherwise. In Fig. 1, the lower half of the wall is broken away to show rabbit-proof netting buried six inches in the ground.

12 *MS. pages*, 5 *claims*; 1 *fol. drg*, 3 *figs.*

2924. 8 Apr. *Prov. only.*

G. A. Abbott, 82 William-street, Melbourne, Vic., plumber.

"Means for deodorising or disinfecting water cisterns and closet pans and for analogous purposes."

Class 86.2.

2925. 8 Apr. *C.a.P.* 19 Dec.

R. McDonald, Heathcote, Vic., cycle engineer.

Metallic swivel joint between tyres and pumps.

Classes 74.5; 97.85.

The pump barrel **a** (Fig. 1), is closed at its lower end **b**, and has a rigid side tube **c**, and a recess **g**, at its inner end in which the enlarged outer end **d**, of the projection **c** fits and makes an air tight joint when the cap **e** is screwed on the valve nipple.

The joint allows the pump barrel free play during inflation, without the use of perishable rubber tube.

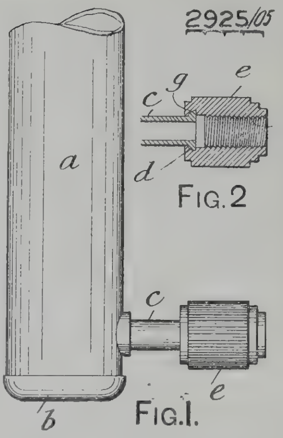

2925/05

FIG.2

FIG.I.

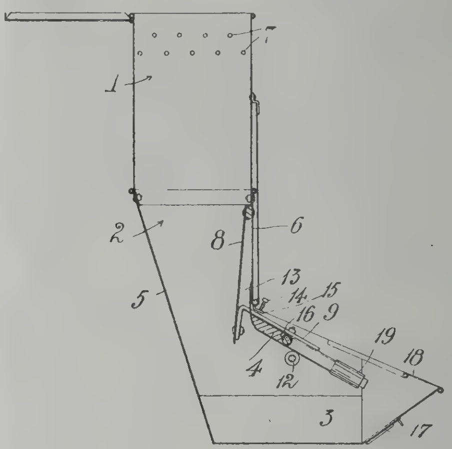
Prov. 2 *typed pages.*
Comp. 3 *typed pages,* 3 *claims;* 1 *fol. drg.,* 2 *figs.*

2926. 8 Apr. *C.a.P.* 19 Aug.
S. R. Bellingham, Rydal, N.S.W., artist.

Feed box, with nose board.
Class 39.3.

In further development from 1171/*04*, the back flexible wall is omitted and the front one **8** is connected to the nose board **4**, by the bolt **16**, in the bracket **9**; to vary the capacity of the hopper between **8** and **5**, the bolt **16** may be shifted to different holes in **9**; the nose board slips forward on rollers **12**. The top of the hopper **1** is detachable for convenience of cleaning, and a bottom door is provided at **17**; the feeding opening is contracted at **18**.

FIG.I. 2926/05



In an alternative, the capacity of the lower hopper behind **9** is adjusted by a butterfly partition that may be set at any angle.

Prov. 2 *typed pages.*
Comp. 6 *typed pages,* 6 *cls;* 1 *fol. drg.,* 3 *figs.*

2927. 8 Apr. *C.a.P.* 12 June.
J. McKenney, "Rose Lawn," Cowra, N.S.W., farmer.

2927/05

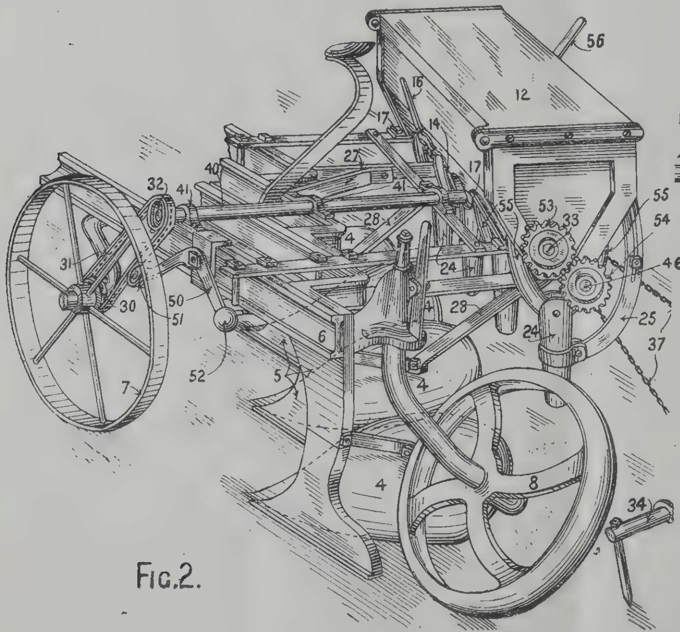


FIG.2.

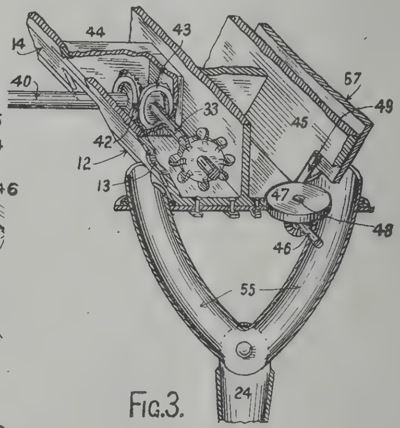


FIG.3.

Seeder, &c., for gang ploughs.
Class 31.1.

The seeding appliance described in 640/*04*, Fig 2, is adapted to a gang plough with mould boards; the seed box **12** has baffles to prevent the seed being shaken to one end, and a slide **14**, with holes to regulate the discharge to each plough; the drive is by chain wheel **30**, from the land wheel **7**, through a shaft **40**, and gear **43**, **53**, and **54**.

The seed box, Fig. 3, is divided longitudinally, the trough **44** delivers seed by the cup wheel **33**, and the trough **45** supplies fertilizer by means of a glass-topped disc **47**, and a scraper (not shown); the seed and manure fall down shoots **53** and **24** as usual.

In a modification the manure supply is omitted and the seed wheel is driven from the furrow-wheels.

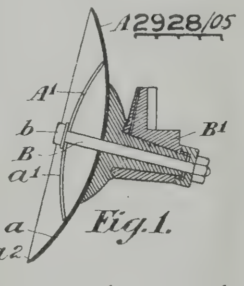
A harrow **34** is dragged behind the plough by chains **37**.

Prov. *2 typed pages.*
Comp. *9 typed pp., 7 claims; 2 fols. drgs., 3 figs.*

2928. 8 Apr. *C.a.P.* 16 June.

C. Morrow, Ascot Park, Shepparton, Vic., grazier.

Plough discs; convex centres.
Classes 30.3; 30.7.



To improve the turning-over of the sod, and to prevent soil sticking in the disc, the usual concave discs are filled up by a convex boss for about two-thirds of its diameter.

In Fig. 1, a convex shell **A1** is clamped in the bottom of the disc by the pivot bolt **B**; in other modifications solid washers are used to increase the weight; when making new discs the convexity may be stamped in the sheet, and loading may be filled in behind.

Prov. *3 typed pages.*
Comp. *5 typed pages, 5 claims; 1 fol. drg., 7 figs.*

2929. 8 Apr. *Prov. only.*

W. Stewart, Kiewa-street, Albury, N.S.W., builder.

"An improved lowering apparatus particularly applicable for fire-escape purposes."

Classes 59.2; 62.4; 88.4.

2930. 11 Apr. *Prov. only.*

F. V. Raymond, Invercargill, N.Z., solicitor.

"Improvements in hair-curlers."

Class 43.7.

2931. 11 Apr. G. Audley, 5 Pall Mall, Liverpool, Lancashire, Eng., merchant (*assignee of* E. Bethel, *act. inv.*, 28 Greenleaf-street, Liverpool, Lancashire, Eng., commercial traveller).

Aerated water-bottle; barrel-shaped cork
Class 57.5.

Fig. 2

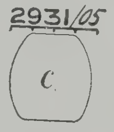
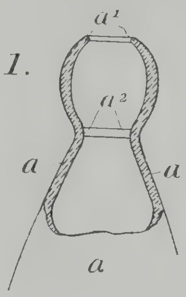


Fig. 1.



The mouth or upper part of the neck of the bottle is made barrel-shape, that is, having its largest diameter between the neck **a2** and mouth **a1**.

The cork is made to correspond in shape, and may be inserted in ordinary machines; it will hold aerated waters without wiring, and may be drawn by a corkscrew.

2 typed pages, 1 claim;
1 fol. drg., 2 figs.

2932. 11 Apr. *Prov. only.*

W. G. Stoddart, 45 Malop-street, Geelong, Vic., dentist.

"Portable apparatus for driving drills and the like instruments for dentists and surgeons."

Classes 39.1; 72.7; 87.7.

2933. 11 Apr. *Prov. only.*

W. G. Stoddart and H. G. Roebuck, both of 45 Malop-street, Geelong, Vic., dentists.

"Improvements in dental appliances."

Classes 72.7; 87.7.

2934. 11 Apr. *Prov. only.*

F. Bottrill, 93 Franklin-street, Adelaide, S.A., engineering smith.

"An automatic lubricating device for steam hammers."

Classes 60.9; 71.2.

2935. 11 Apr. *Prov only.*

D. J. Stephens, Pitt Town, Windsor, N.S.W., farmer.

"Stephens' puncture-proof shield for pneumatic tyres."

Class 97.89.

2936. 11 Apr. J. Price, 17 Devonshire-square, London, Eng., chemist.

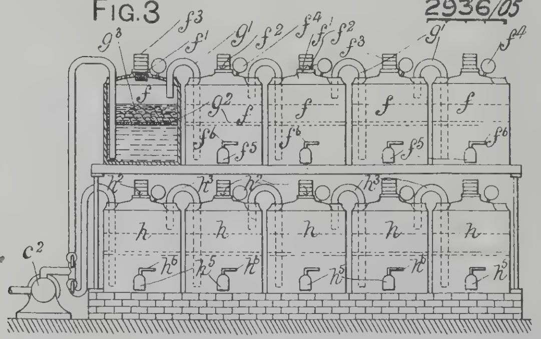
Synthesis of nitrates, &c.

Classes 08.5 ; 08.9.

Calcium, potassium, and sodium nitrates and nitrites, including sulpho-nitrates and sulpho-nitrites, are obtained by the action of the oxygen and nitrogen of the air upon the corresponding oxides or salts.

The oxygen and nitrogen, separated from air as described in G.B. 14,213/03, are stored in separate gas holders, and are then led in the proportion required to form the desired nitrogen oxide, and at the desired pressure (obtained either by weighting the holder by a force pump **c2**, Fig. 3, or by using liquid air, and varying from 2 to 30 atmospheres), to the absorbers, namely, oxygen to the absorbers **h**, and nitrogen to the absorbers **f**.

FIG. 3 2936/05



Each absorber consists of a vessel having a gas-inlet tube **g1**, **h3**, a gas outlet **g1**, **h3**, a liquid and solid inlet **f1**, **h2** having a closing device **f2**, and a safety valve **f3**, a pressure gauge **f4**, an outlet **f5**, **h5**, a cock **f6**, **h6**, and a tray or its equivalent **g2**.

The latter is charged with a suitable catalytic body, such as gypsum, carbon (preferably in form of coke or charcoal), spongy platinum, sodium sulphate, or sodium biborate.

In the case of the last two substances, the body dissolves and must be separated from the solution obtained.

The absorbers are charged with caustic soda, potash, or lime, in solution, or in suspension, or even in a dry or deliquescent form, or with a salt which is decomposed to yield those bodies.

The product of the vessels **f** is led through the vessels **h**, and the required nitrate or nitrite formed. The reaction product is separated by evaporation or by evaporation and crystallization.

The oxygen and nitrogen may be led through the same vessels, either simultaneously or separately.

In a modification, the absorbers **f** may be simply charged with water and the catalytic body, the absorbers **h** being charged as above.

When liquid air is used the excess of nitrogen over that which is required for the reaction may be allowed to boil off, or the whole of it may be allowed to evaporate, and a sufficient portion of it collected and used, as in the example above.

Alternatively, liquid or other form of air may be treated in strong closed vessels with oxygen or ozone so that the proportion of oxygen to nitrogen shall be that required, and the gases then used in the reaction.

When it is desired to form the sulpho-salt, sulphates, sulphites, or sulphides are used in the absorbers instead of caustic solutions.

Calcium nitrate, prepared by these methods, is mixed with an absorbent, such as sodium sulphate (salt cake) or calcium sulphate (gypsum) or with a mixture of those two salts, to form a dry, non-deliquescent substance suitable as a manure.

15 *typed pages*, 6 *claims*; 2 *fols. drgs.*, 4 *figs.*

2937. 11 Apr. *C.a.P.* 15 Sept.

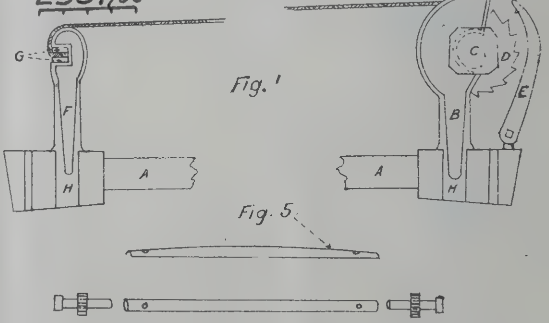
E. J. Restorck, Normanby Chambers, Chancery-lane, Melbourne, Vic., accountant.

Stretching wire mattresses on iron bedsteads.

Classes 45.2 ; 46.1.

On each end of the side bars **A**, dovetailed sockets at **H** are cast to hold standards; the pair of standards **F** carry a cross bar **G**, Fig. 5, to which a wire mattress is attached, the other

2937/05



pair **B** carry a roller (with ratchet wheels **D**, and detent **E**, at each end) on which the mattress may be strained by winding.

Prov. 2 *MS. pages.*
Comp. 4 *MS. pages,* 3 *clms.;* 1 *fol. drg.,* 8 *figs.*

2938. 11 Apr. *Prov. only.*

G. H. Dunlop, 17 Dundas-place, S. Melbourne, Vic., civil engineer.

"Improved power machine for excavating and hauling."

Classes 84.3; 95.5.

2939. 11 Apr. *Prov. only.*

J. H. Matthews, 11 Clarke-street, Northcote, Vic., commission agent.

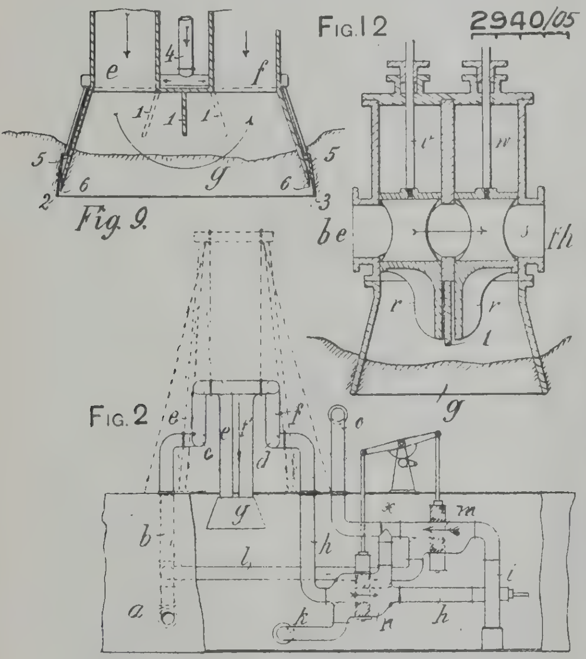
"Improvements in magazines for rifles."

Class 89.3.

2940. 11 Apr. O. Frühling, 5 Monumentsplatz, Brunswick, Ger., civil engineer.

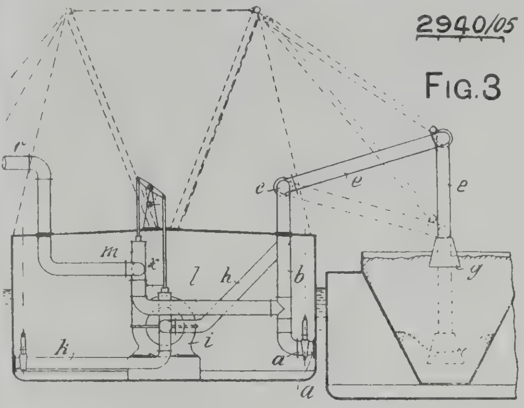
Suction bells for dredging limited spaces.

Classes 74.7; 84.8.

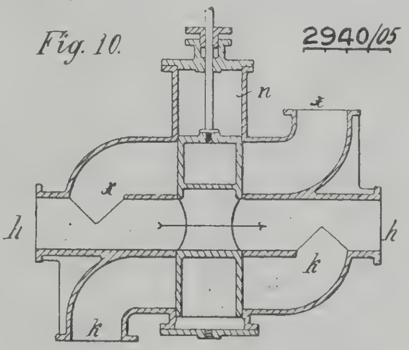


For dredging in excavations, unloading ships, hopper barges, &c., the suction is confined by attaching an inverted funnel or bell **g** to the jointed crane pipes **e**, **f**, by one of which, **e**, water enters the bell, passes under baffle plates **l**, and (with the loosened material) passes out by the other, **f**, to the pump; special jets **3**, **5**, Fig. 9, under pressure from the pipe **4**, also assist the penetration of the edge of the bell.

Systems of compound sluices, as in Figs. 2 and 3, allow of the regulation of the currents by the operation of a single lever. Fig. 12 details a double sluice combined with a bell. Fig. 10 is one of the sluices in Fig. 2.



Modifications show suction bells and pipes permanently fixed in hopper barges, &c., with connexions for the crane pipes for an external plant; in elongated spaces several bells may be used in a row.



10 *typed pages,* 6 *claims;* 9 *fols. drgs.,* 21 *figs.*

2941. 11 Apr. O. Frühling, 5 Monumentsplatz, Brunswick, Ger., civil engineer.

Adjustable suction heads for dredgers.

Class 84.8.

The cutting edges of dredger heads on suction pipes may be set at the proper angle in relation to the suction pipe to obtain the best efficiency according to the depth at which the dredger head is working.

In Fig. 2, the ladder or frame **b** has a forked lower end which is hinged at two points to the case of the cutter head **c**; the suction pipe **a** is supported on the frame **b**, and is connected to the head by the swivel joint **n**.

Three methods are described for holding the head at the desired angle.

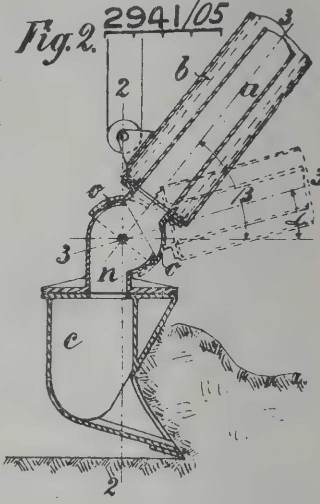
(1) By means of chains hooked to eye-lets on **b** and **c**.

(2) Rigid links with a series of spacing holes for bolts.

(3) By means of perforated or toothed discs on the hinge centres.

8 *typed pages*, 5 *claims*; 3 *fols. drgs.*, 11 *figs.*

Fig. 2.



2942. 11 Apr. C. E. Bernays, 45 Adelaide-street, Brisbane, Qld., patent attorney (*communicatee of* I. A. Timmis, *act. inv.*, 2 Great George-street, Westminster, London, Eng., engineer).

Traction and control springs for bogies.

Classes 96.3; 96.5.

FIG. 2.

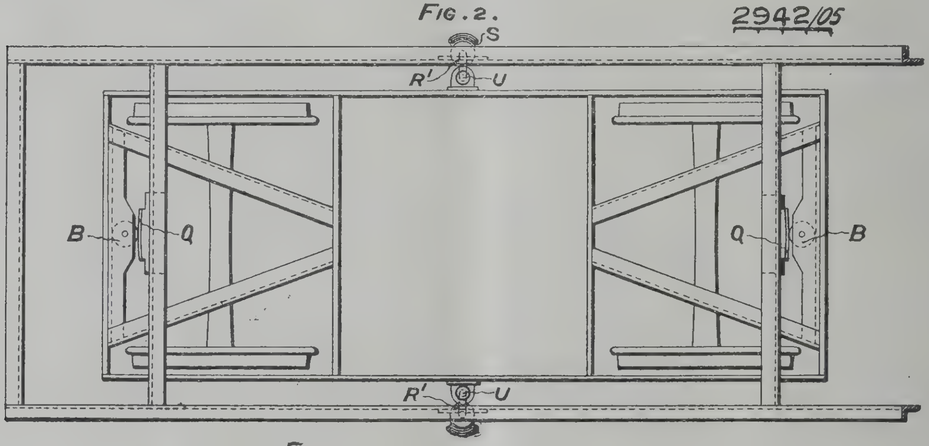
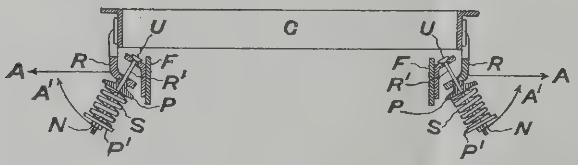


FIG. 1.



The lateral oscillation of the car on the bogie is controlled by supports or arms **R**, on either side of the car-frame; the arms rest on springs **S**, which are carried by swinging rods **R1** hanging from brackets on the bogie; the rod has cap washers, spherical seats, and an adjusting nut.

6 *typed pages*, 3 *claims*; 1 *fol. drg.*, 2 *figs.*

2943. 11 Apr. *C.a.P.* 18 Dec.

N. Setterwall, Grefmagnigatan 6, Stockholm, Sweden, barrister (*assignee of* F. O. Nilsson, *act. inv.*, Inedalsgatan 7B., Stockholm, Sweden.)

Centrifugal creamers ; adjusting passages, &c.

Class 36.6.

To avoid the difficulty of adjusting and cleaning narrow slots **4** in the vertical distributor separators with conical liners, the slots are made of liberal width, and are reduced in capacity by vertical rods **7**, which are pressed outwardly by centrifugal action ; the rods have narrow bands **8**, which may be of any depth to regulate the opening between the rod and the inner edge of the slots **4**, and the depths of the bands may be varied at different heights when desired ; the rods are freely supported on the top covers **10** to facilitate removal.

2943/05

Fig. 1

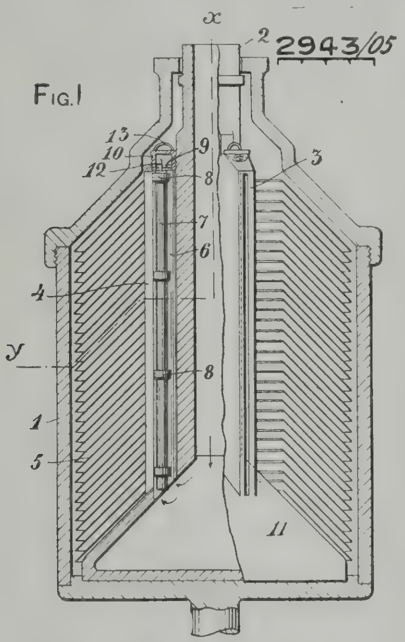
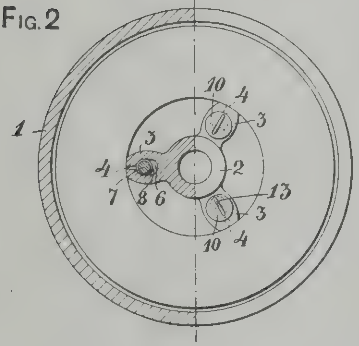


Fig. 2



In place of the bands **8** a screw thread may be used. Spiral springs which would contract and expand under centrifugal force may be used instead of the rods **7**.

Prov. 5 *typed pages ;* 1 *fol. drg.,* 2 *figs.*
Comp. 7 *typed pages,* 6 *claims.*

2944. 11 Apr. *Prov. only.*

J. F. Harris, Thomson-street, Hamilton, Vic., coachbuilder.

"Improvements in or connected with brake blocks and shoes for road vehicles."

Class 93.3.

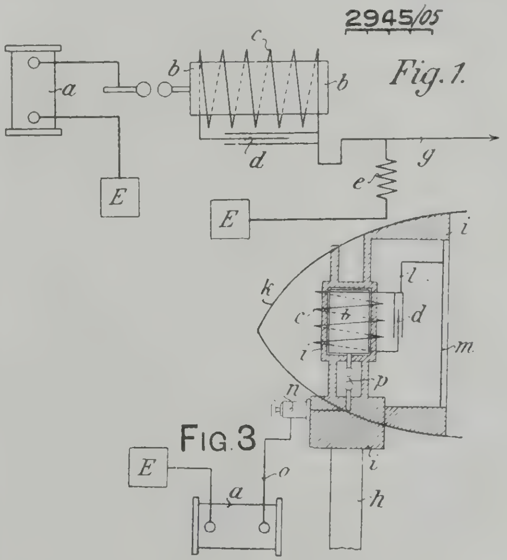
2945. 11 Apr. H. Heinicke, 8 Forststrasse, Steglitz, near Berlin, Germany, electrical engineer.

Producing electric waves for telegraphic and therapeutic use.

Classes 02.6 ; 05.5 ; 87.8.

The ordinary induction coil **a** has one secondary terminal earthed, the other being connected through a sparking gap to the well insulated solid or hollow metallic core **b** ; the transformer coil **c** is closed by a condenser, one side of which may be connected to a telegraphic antenna **g**, and is also grounded through another coil **e**, Fig. 1.

2945/05



Alternatively, the parts **b**, **c**, **d** may be duplicated, and one condenser may be earthed and the other connected to the antenna ; this form is more advantageous for therapeutic use.

In Fig. 3, a wave-radiating structure **m**, and the parts **b**, **c**, **d**, **p** are placed in a parabolic casing **k**.

8 *typed pages*, 9 *claims*; 1 *fol. drg.*, 3 *figs.*

2946. 12 Apr. *Prov. only.*

T. Headen, Pier-street, Perth, W.A., manufacturer.

"Improvement in incubators for turning the eggs."

Class 38.3.

2947. 12 Apr. *Prov. only.*

W. C. Hulbert, Denison-street, Mudgee, N.S.W., violinist.

"A device for destroying rabbits."

Classes 38.6; 38.9.

2948. 12 Apr. *Comp. lapsed.*

H. C. Fredericks, 12 Marchall-street, Stanmore, N.S.W., commercial traveller.

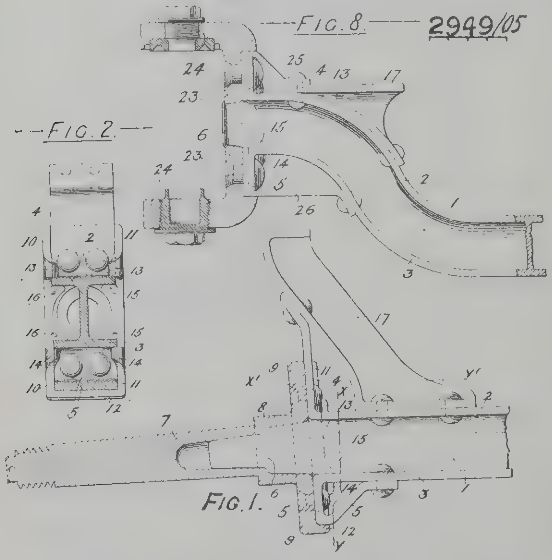
"The musical bicycle."

Classes 01.0; 53.4; 94.9.

2949. 12 Apr. H. M. Butler, Kirkstall Forge, near Leeds, Yorkshire, Eng., ironmaster.

Metallic automobile axles.

Classes 93.3; 95.7.



To reduce weight and facilitate attachment to frames the axle has a centre part of rolled I-section, with riveted gudgeons or brackets. The driving axle, Figs. 1 and 2, has the top and bottom flanges of the girder part bent outwards to form flanges, against which the flanges of the gudgeon **7** are riveted and folded as at **15**; the web **6** may fit in the hollow of the gudgeon; additional frame brackets, such as **17**, may be combined. Alternatively, two channel bars may be used for the centre part, with the hollows together and a hard-wood filling.

The steering axle, Fig. 8, has double curvature to get below the mechanism, and is similarly attached to the swivel fork **24**.

13 *typed pages*, 6 *claims*; 3 *fols. drgs.*, 11 *figs.*

2950. 12 Apr. B. C. A. Vorster, 71 Lste Jan van der Heydenstraat, Amsterdam, Holland, commercial agent.

Stamp affixing; spiked lifter.

Classes 48.3; 54.3.

A ribbon of stamps **2** coiled on a drum **1** is fed by a feed drum **3** and a pressure roller **4** over damping wicks **17**; the wicks are held by a frame **21**, supported above a water trough **19** by springs on lateral rods **46**.

In the sheet metal cover above the wicks a tapered guide opening **39** is formed through which the spiked lifter, Fig. 4, may be inserted; the edges **27** separate the stamp from the band, the rod **24** slides through the guide **26** and impales the stamp on the spikes **28**, and depresses it against the wicks to damp its under surface; on lifting the handle the damp stamp is extracted from the machine, and may be stuck on any letter or article by the same handle by the full depression of the knob **53**, the plate **23** forces the stamp off the spikes **28** against the letter.

The depression of the wick-frame **21** and pin **38** rocks the levers **37** and **9** ready for a second stamp to be fed by the pawl spring **10**; the motion of the drum **3** is measured by the spring stop **12**, which catches in countersinks **11**, exactly one stamp length apart; the fan **52** and gearing **50**, **51** prevents the advance of a second stamp before the first is withdrawn.

8 *typed pages*, 2 *claims*; 2 *fols. drgs.*, 5 *figs.*

(For drawings see next page.)

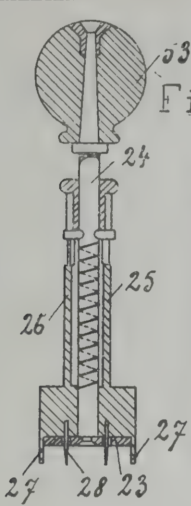
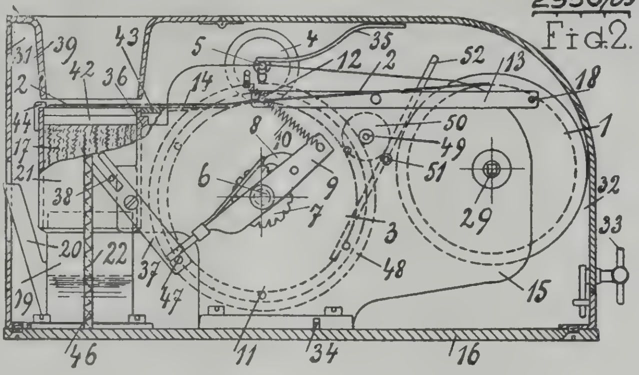


Fig. 4

2950/05

Fig 2.



2951. 12 Apr. F. J. King, 17 South Park Hill-road, Croydon, Surrey, Eng., mining engineer.

Application under Sec. 7—

Vic.	...	19,187	...	23rd April, 1902
S.A.	...	7660/5678	...	25th April, 1902
N.S.W.	...	12,004	...	26th April, 1902
Qld.	...	6,604	...	28th April, 1902
Tas.	...	3,378	...	29th April, 1902
W.A.	...	3,855	...	3rd May, 1902

Ore separators; magnetic grids.

Classes 02.1; 11.7.

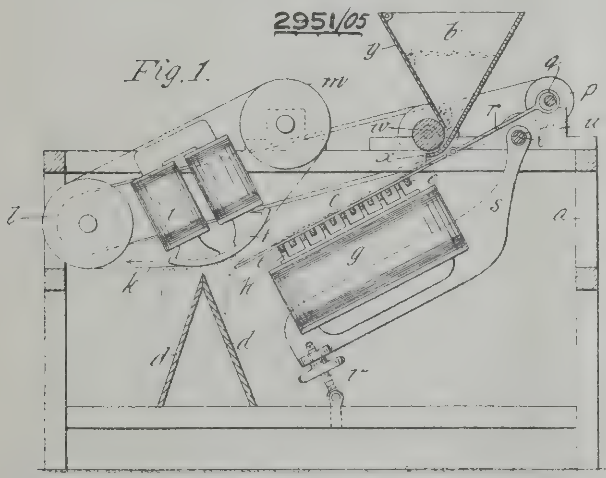
To prevent incomplete separation due to non-magnetic particles being caught and carried between magnetic particles, the crushed ore is firstly traversed down a sloping and shaking tray **r**, above transverse bars **e** of alternate polarity; in passing these the agitation under the reversals of polarity cause the magnetic particles to work to the top of the layer, the non-magnetic particles remaining at the bottom.

The layer then passes under a curved face **f** of polar bars arranged parallel to the travel of the moving belt **k** which carries the magnetic part past the partition **d**; non-magnetic particles fall off the tray **r** at the near side of the partition.

The construction of the bipolar magnets, with longitudinal pole pieces connected alternately to transverse cores for both **e** and **f**, is illustrated; other arrangements are also suggested.

2951/05

Fig. 1.



9 typed pages, 5 claims; 3 fols. drgs., 8 figs.

2952. 12 Apr. *C.a.P.* 23 Dec.

H. Goldschmidt, manufacturer, and F. Lange, architect, both of Essen on the Ruhr, Germany.

Rail jointing by "Thermit"; pre-heating, &c.

Classes 03.6; 16.33; 70.2; 98.1.

To economize "Thermit" in jointing rails, &c., the mould **a**, Fig. 2, and the ends of the rail are pre-heated by forcing hot blast from a portable forge **c**, through the mould and out by the gate **f**; during the heating the head of the rail may be protected by sheet metal shield **k**.

2952/05

Fig. 1.

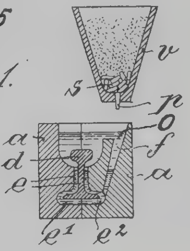
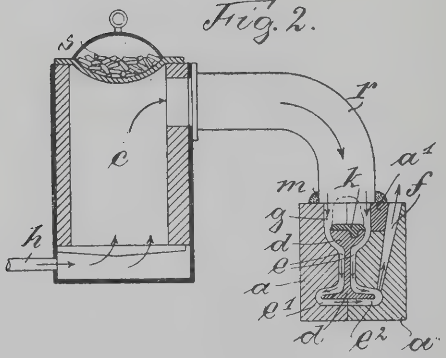


Fig. 2.



The "Thermit" in the crucible may still be further economized by pre-heating a quantity of broken iron to a bright red heat, which is dropped into the crucible **v**, Fig. 1, as the charge is ignited; on knocking up the plug **p**, the combined molten iron from the "Thermit" and the added metal runs down by the gate **f**, and is followed by the hot slag which overflows at **o** on top of the rail in the body of the mould.

Prov. 11 *typed pages;* 1 *fol. drg.;* 4 *figs.*
Comp. 11 *typed pages,* 5 *claims.*

2953. 12 Apr. W. J. Reid, *act. inv.*, engineers' merchant; Elizabeth F. Reid, *assignee;* Margaret F. Reid, *assignee;* and Isabella Reid, *assignee*, spinsters, all of Brockhurst, Woodside Park, Middlesex, Eng.

Lubricating axles, &c.; draw punch for leather cords.

Classes 47.3; 60.9; 62.7; 96.4.

The bush or hub liner **e**, for a loose pulley or wheel **a**, has leather (or felt) strips **g**, inserted in underhung grooves, which communicate by holes **f** with an oil chamber b cast in the hub and surrounding the bush.

2953/05

Fig 1.

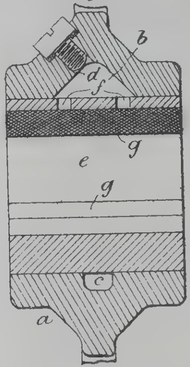


Fig 2.

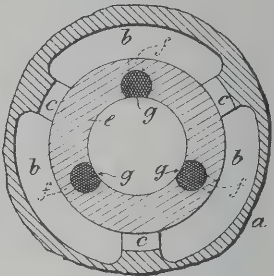
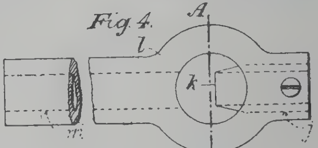


Fig 4.



The grooves are formed by drilling circular holes in the bush before it is bored for the axle, the positions being set-out so that the large boring cuts open the drilled holes.

The leather strips may be round cords, trimmed by a draw-punch **A**, Fig. 4, and compressed into the holes before the hub is bored.

A bush with six leather strips may be cut longitudinally, and each half used as the top bearing for a truck axle, or the bottom half of a shaft bearing.

6 *MS. pages,* 3 *claims;* 1 *fol. drg.,* 6 *figs.*

2954. 12 Apr. *Prov. only.*

C. M. Soule, 82 William-street, Melbourne, Vic., agent.

> "Safety appliance for waist-coat or other pocket to prevent a watch or similar article being feloniously abstracted therefrom."

Classes 43.9; 88.5.

2955. 12 Apr. *Prov. only.*

E. Richardson, 9 Creswick-street, Hawthorn, Vic., engineer.

> "An improved apparatus for the more complete combustion of fuel and the consequent prevention of smoke."

Class 17.7.

2956. 12 Apr. J. BURKE, 204 West Eighth-street, Erie, Penn., U.S.A.

Triple motor for portable drills, &c.

Classes 02.1; 02.2; 02.3; 72.7.

2956/05

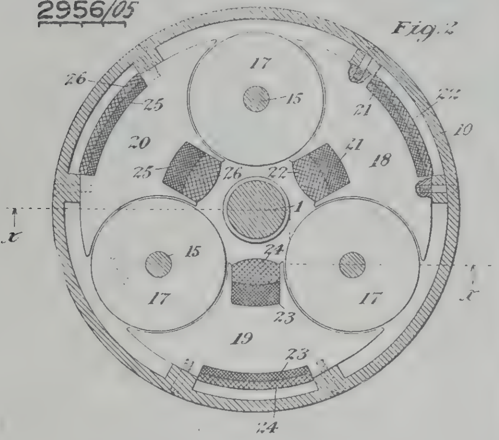
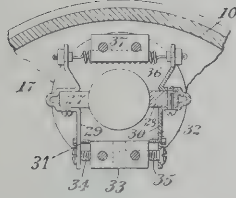


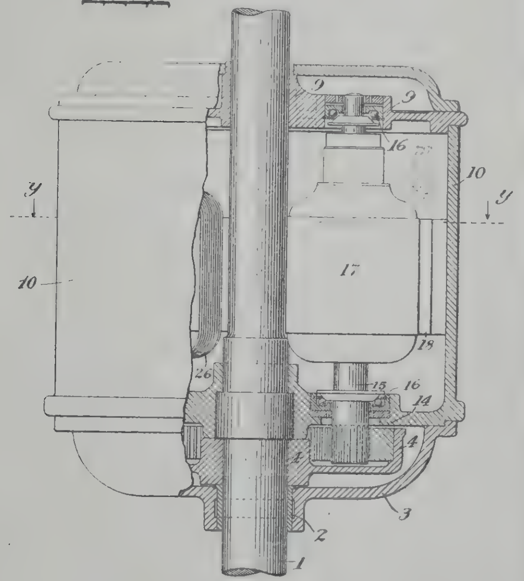
Fig. 3



The drill spindle **1** carries an internal gear wheel **4**, which is driven by pinions on the spindles of a circle of small continuous current armatures **17**, which are mounted in ball bearings between the ends of a non-magnetic case **10**.

2956/05

Fig. 1



There are wedge-shaped field magnets, **18**, **19**, **20**, Fig. 2, placed between each adjacent pair of armatures, and attached to the case; the brushes are independent for each armature as in Fig. 3; the several magnets form one magnetic circuit; but the exciting coils may be either in series or parallel, although the armatures are preferred to be in series.

7 *typed pages*, 9 *claims*; 3 *fols. drgs.*, 6 *figs.*

2957. 12 Apr. W. O. DUNTLEY, Fisher Building, Chicago, Cook, Ill., U.S.A., manufacturer.

Portable drills with triple electric motors; details.

Classes 02.2; 02.3; 60.2; 72.7.

Each motor carries a fan **25**, Fig. 1, which sucks air through openings **26**, cools the armatures, and ejects it at **27**.

Fig. 1.

2957/05

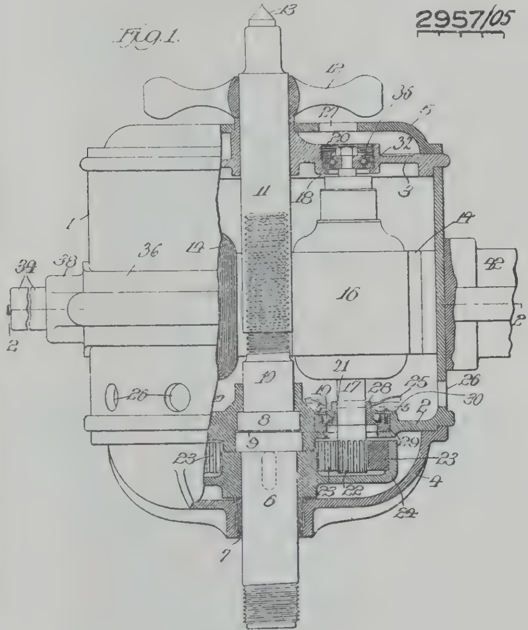
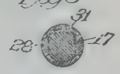
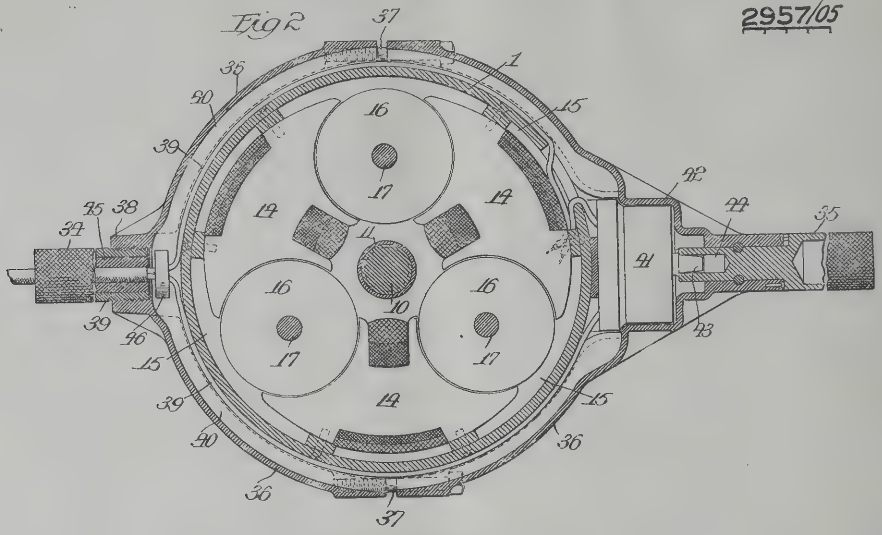


Fig. 5



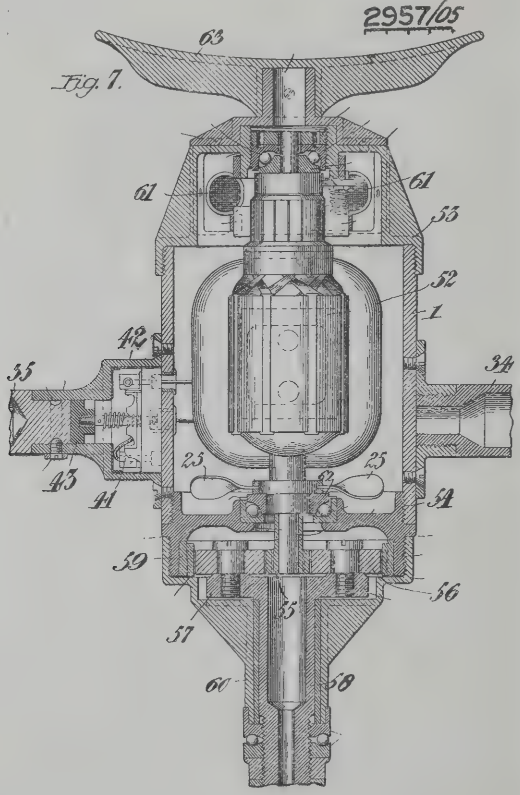
The motor spindles have ball bearings **18** and **19**, the top bearing **18** being seated on a shoulder of the cover **3**, and is screw-locked. The bottom bearing ring **29** is loose in the case **2**, but is prevented from turning by the angular washer **30**, thus the cover **3** may be lifted off and will carry with it the three armatures and gear pinions **22**.

Fig 2



The drill thrust is taken by a ball ring between the collars **8** and **9**, Fig. 1, and the drill is fed by the sleeve **11** being moved upwards by hand rotation.

Fig. 7.



The casing is held against rotation by handles **34**, **35**, Fig. 2, attached to a split band **36**, in which passages are formed for conducting wires **39** and switch **41**.

A modification in Fig. 7 has a single central armature driving the drill shaft by a pair of train-arm pinions gearing with a fixed ring on the motor case.

14 *typed pages*, 9 *claims* ; 5 *fols. drgs.*, 7 *figs.*

2958. 12 Apr. A. F. Lucke, *act. inv.*, Croydon, Vic., blacksmith, and R. H. King, *assignee*, Nullawil, Vic., commission agent.

Socket plough share, pressed and folded.

Class 30.3.

A steel plate **1** is folded down on the land side at **4**, with an inturned edge **7** ; opposing the fold **4** is a square shoulder **5**, formed by corrugating the substance of the plate without cutting it, thus forming a tapered recess **3**, into which the foot of the share post will set.

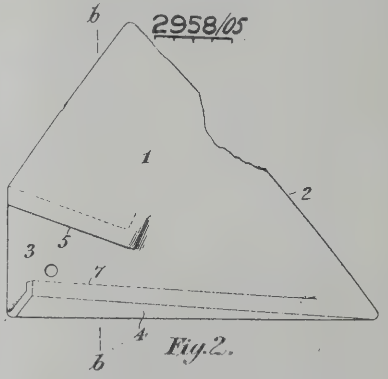


Fig.2.

The edge **2** is sharpened, and the share is practically flat from the shoulder **5** to the edges **6** and **2**.

3 *typed pages*, 2 *claims* ; 1 *fol. drg.*, 5 *figs.*

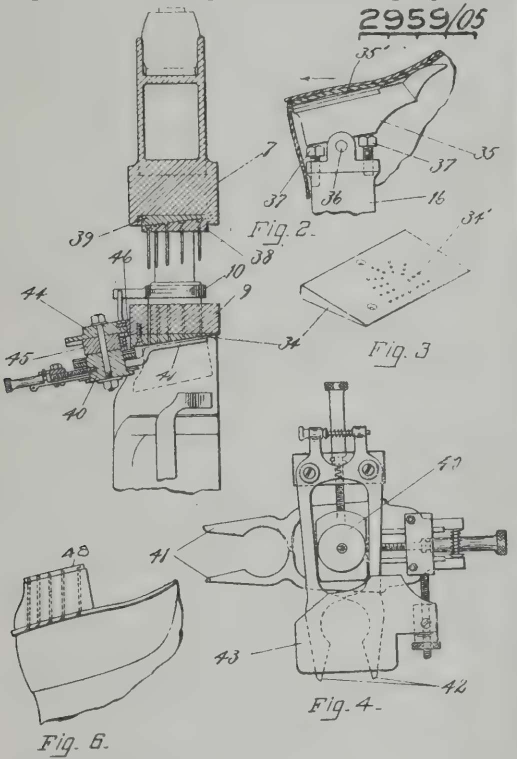
2959. 12 Apr. *C.a.P.* 4 Jan., 1906. UNITED SHOE MACH. Co., 205 Lincoln-street, Boston, Mass., U.S.A., shoe machinery manufacturers (*assignees of* W. H. TAYLOR, *act. inv.*, Baltimore, Maryland, U.S.A., shoeworker).

Oblique nailed boot heels; nailing chucks, &c.

Class 44.5.

Certain patterns of ladies' high heels cannot be securely attached by nails driven square to the lifts from the small surface of the top-lift; such are fastened as in Fig. 6, in which the top-lift is spanked on after the nails are driven, and by pressure in the direction of the nails.

The drawings show a Pope machine (U.S.A. 446,885/*91*); but other machines may be adapted for driving the nails obliquely.



The boot is held obliquely on a work support **35**, provided with a metal plate **35^1**, mounted on the jack **16**, and adjusted by the set screws **37**. The horizontal die block **9** is adjusted to the required inclination by inserting interchangeable perforated wedges **34**, Fig. 3, which register with the die block; interchangeable wedges **38** and **39** are also detachably fixed to the driving head **7**, to hold the depending drivers; the nails are fed to the die block **9** by the loader **10**.

The heel is brought into position by the revolving carrier **40**, Fig. 4, having a spring pressed heel clamp **41**, a top lift clamp **42**, and a spanker plate **43**; the carrier is pivoted on a projection **44** from the die block **9**, and is adjusted by the removable wedge **46**; the vertical height is adjusted by inserting a packing block **45** between **44** and the carrier **40**.

As the nails are driven obliquely against the metal heel plate **35^1**, they are clinched with the points towards the back of the heel; the driving ends are left projecting above the face of the heel; the top lift and spanker plate **43** are then brought into position below the die block, when the heel is brought up by the treadle and pressed against the die block by cams causing the top lift **48** to be spanked on the exposed nail ends as shown in Fig. 6.

Prov. 9 *typed pages.*
Comp. 13 *typed pp.*, 11 *cls.*; 2 *fols. drgs.*, 6 *figs.*

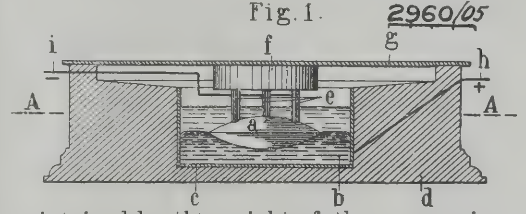
2960. 12 Apr. F. F. BOURDIL, 56 Avenue d' Téna, Paris, France, engineer.

Submerged microphone; mercury support.

Class 05.6.

In submerged microphones, instead of the contacts between the carbon elements being maintained by the weight of the upper pieces, the lower pieces float in mercury and have an hydraulic thrust against the upper pieces.

Fig. 1.



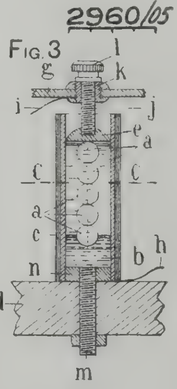
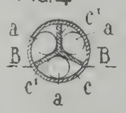


Fig. 3

Fig. 4



In Fig. 1, the carbon lens **a** floats on the mercury **b**, and rises against carbon contacts **e**, which are attached by the insulation **f** to the vibrating diaphragm **g**.

In Figs. 3 and 4, three piles of carbon balls **a**, in three insulated compartments, are similarly thrust against the adjustable abutment **e**, attached to the diaphragm **g**. Several such columns may be connected to one diaphragm and coupled either in series or in parallel.

The carbons are submerged in petroleum to prevent sparking.

12 *MS. pages*, 8 *claims*; 2 *fols. drgs.*, 7 *figs.*

2961. 12 Apr. S. C. Davidson, Sirocco Engineering Works, Belfast, Ireland, merchant.

Centrifugal fans and pumps; guide inlets, &c.

Classes 68.7; 69.6.

In "Sirocco" fans (and similar pumps) following Vic. 15,929/99, which have an annulus of curved vanes closed at one side, and sucking air through the other side, it has been found that extensions of the vanes inwardly towards the axis have a detrimental effect and are omitted; the shrouding or wall opening on the inlet side, if with a concentric opening, has a diameter considerably less than the inner diameter of the vanes.

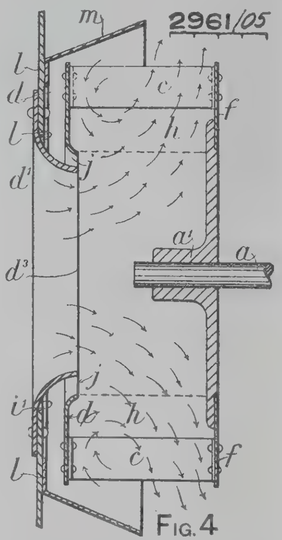
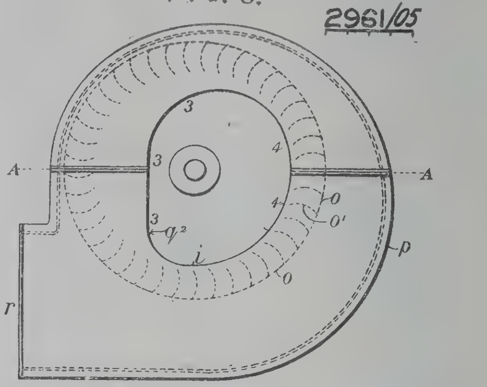


FIG. 4

In Fig. 4, the vanes **c** are about half the depth of the inlet shroud **d**, and both the shrouding and the wall aperture have curved guide edges at **j**. To reduce the return eddy shown near the delivery edge at the inlet side of the vanes, a guard rug **m** is fitted round the wall aperture and partly overhanging the fan; in this example the fan delivers equally all round.

To avoid similar eddies in enclosed fans delivering tangentially through an increasing spiral casing as in Fig. 8, the casing fits closely for about a quadrant from the delivery opening before enlargement commences. The inlet (whether on one or both sides) is also disposed more nearly concentric with the general outline of the casing than with the runner, and may be a modified oval.

FIG. 8.



To reduce lateral eddies in enclosed fans the guide lips of the lateral opening may be prolonged to the face of the runner, as in Fig. 14, or continued for part of the circumference to near the closed side of the runner, as in Fig. 15.

FIG. 14

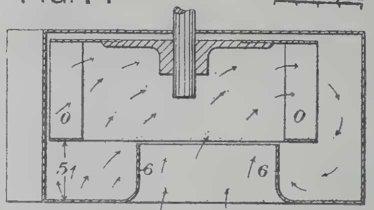
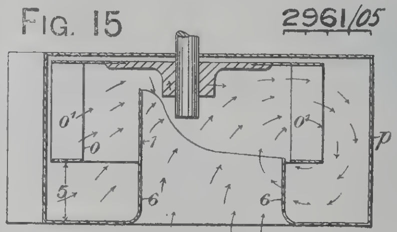


FIG. 15



17 *letterpress pp.*, 12 *cls.*; 14 *fols. drgs.*, 25 *figs.*

2962. 12 Apr. W. H. Nield, 23 Hawthorne-road, Heaton, Mersey, Lancashire, Eng., engineer, and W. Melland, Middleton Hall, Youlgreave, Derbyshire, Eng., gentleman.

Splicing ropes.

Classes 58.1; 58.4.

To couple or splice a rope, an endless link **a** of wire cord is used which is formed into a series of loops, either by twisting, Fig. 2, or by cross pieces of tape or twine **c**, Fig. 3, through which the end strands, after being separated and grouped in even number, are threaded in and out in alternate directions so as to produce a joint without sensible increase of diameter; the joint may be served with suitable wrapping.

Fig. 2.

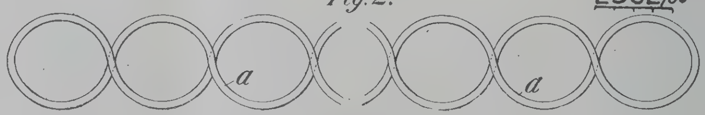
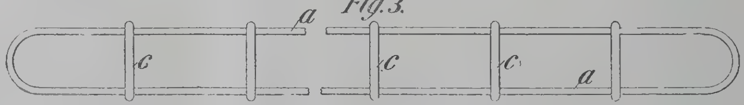


Fig. 3.



4 *typed pages*, 2 *claims*; 1 *fol. drg.*, 4 *figs.*

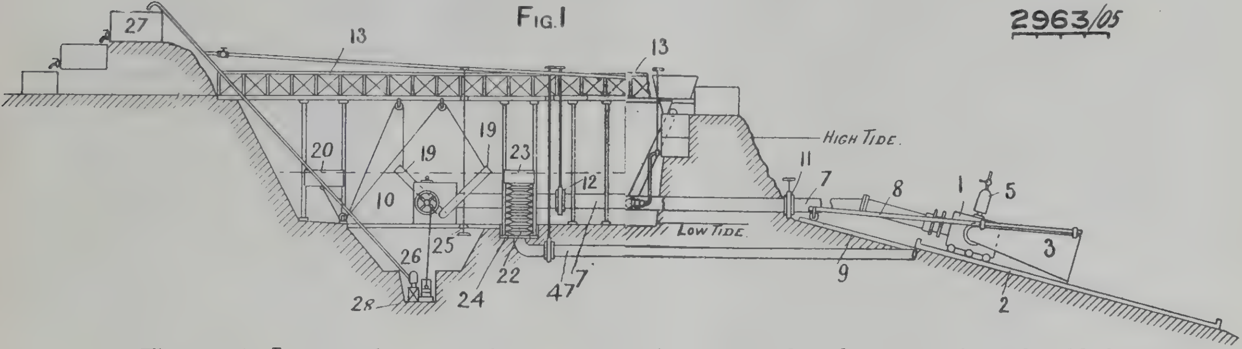
2963. 12 Apr. *C.a.P.* 12 Jan., 1906.

A. ARGLES, Broken Head, near Byron Bay, N.S.W., mining and mechanical engineer.

Gold from sea water; chemical treatment; tide power, &c.

Classes 12.1; 14.1; 14.4; 82.4.

FIG.1



The motive power for operating pumps, mixers, &c., for the separation of gold from sea water is derived from the water pumped by a reciprocating wave motor through the pipe **7**, and apparatus detailed in Fig. 4 to a storage reservoir **10**.

The wave motor **1**, Fig. 3, runs on rails **2**, for a limited distance, and has flared openings **3**, clack valves **4**, air chambers **5**, and telescopic ram **6**; the wave energy drives the motor up the incline and forces the water along the intake pipe **7**.

In the apparatus Fig. 4, a hot sludge of quicklime and iron (3.5 oz. of lime and 0.5 oz. of Fer. O_3 to each ton of sea water) is prepared to precipitate the gold; the lime and iron are mixed with hot sea water in the mixers **32**, **34**, heated by the furnace **36**, passed through the density tube **37** and float valve **39**, and injected at **14**, where the current in the pipe **7** drives the mixers by the helical motor **44**.

The sea water and solution pass through a series of revolving discs **15** and pipes **17**, Fig. 5, made of different metals whose galvanic action assists to collect the gold.

The water flows into the tank **10** through delivery pipes **19** with floating mouths; the gold sludge settles on the bottom, and the clear water is run out through the floating end **23** of the outlet pipe **47**.

The sludge from the well **26** is lifted by the turbine **10** and pump **26**, to the agitating vat **27**, for cyanide or other treatment.

FIG. 3

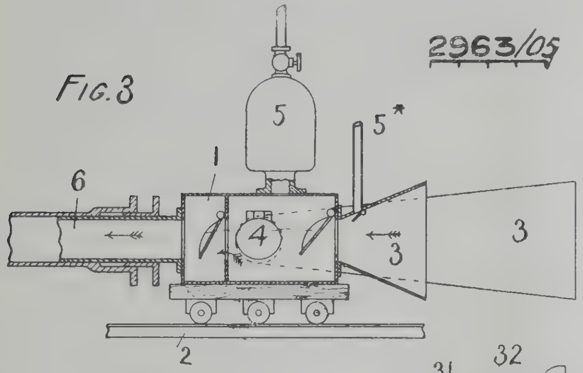


FIG. 4

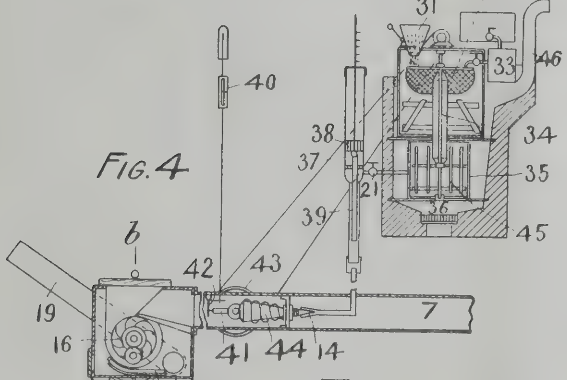
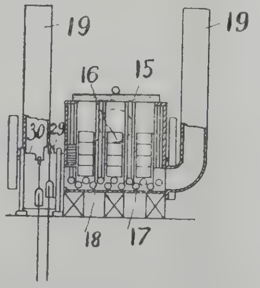


FIG. 5



Prov. 3 typed pages.

Comp. 6 typed pages, 7 claims; 2 fols. drgs., 6 figs.

2964. 12 Apr. *C.a.P.* 30 Dec.
W. A. E. Browne, 82 Booth-street, Annandale, N.S.W., accountant.

Multiple fence boring frame.
Classes 80.7; 81.8.

The drill spindles **10** to **16** are carried in bushes that may be spaced vertically on the standards as desired; they are coupled at the back by chain gear, and driven by an extra spindle and handle **25** from the rear.

The top and bottom spindles are screwed through the front bushes, and feed the whole set by dragging the intermediate standard and the handle bar.

The front feet **23** may be adjusted by the racks and detents to suit uneven ground. For low fences with top rails, the top section may be detached at the fish joints **20**.

Prov. 2 *typed pages.*

Comp. 4 *typed pages,* 3 *claims;* 2 *fols. drgs.,* 3 *figs.*

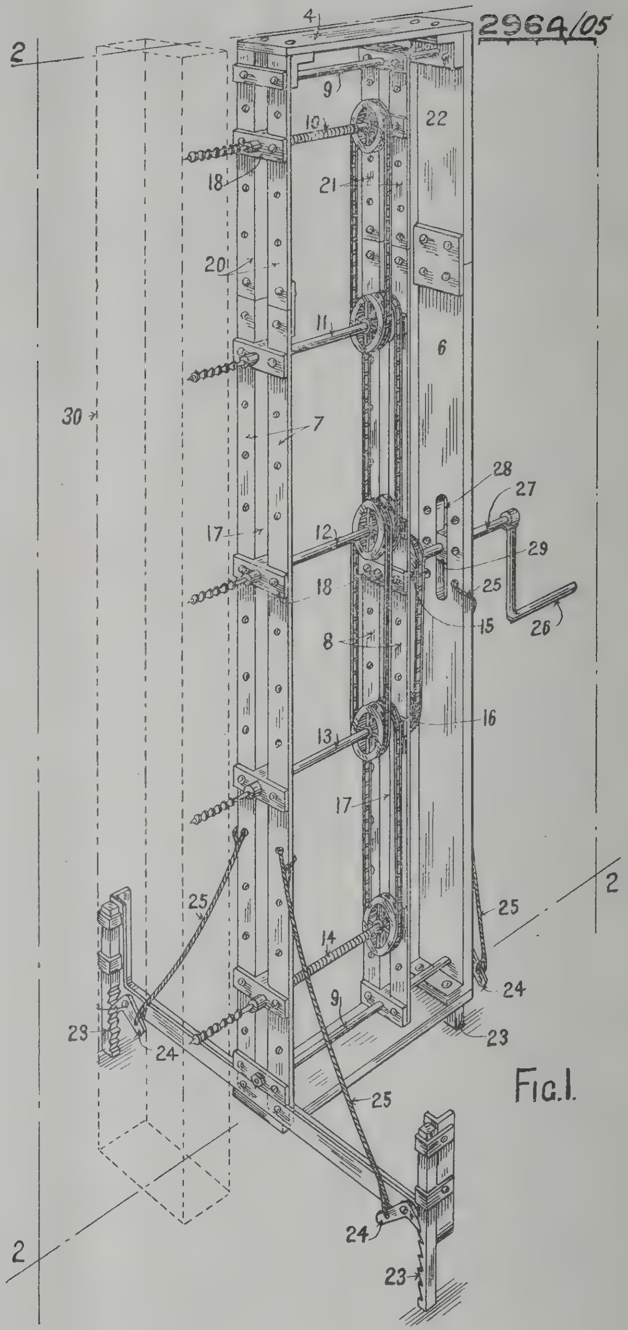


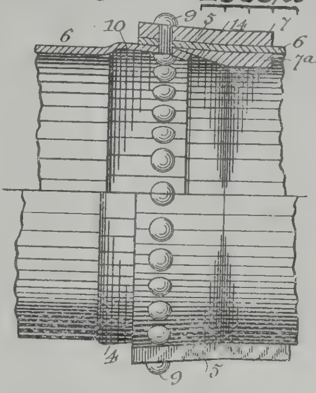
FIG. I.

2965. 13 Apr. G. & C. Hoskins Ltd., Wattle-street, Ultimo, N.S.W., engineers and boilermakers (*assignees of* G. J. Hoskins, *act. inv.*)

Riveted joint for locking-bar pipes.
Class 74.5.

The external part of the bar on the faucet end, and the internal part **7a** on the socket end, are reduced to allow the rivets **9** to close the joint effectually. The bars are staggered on adjoining lengths, and parts of the faucet and socket are recessed to fit the thinned ends of the locking bars.

FIG. 5 2965/05



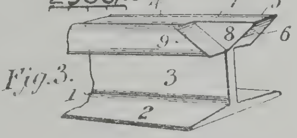
6 typed pages, 3 claims; 1 fol. dry., 6 figs.

2966. 13 Apr. C. R. Robins, *act. inv.*, Watertown, Jefferson, Wis., U.S.A., gentleman; H. G. Lawrence, *assignee*; G. C. Dean, *assignee*, gentleman; and A. E. Cady, *assignee*, gentleman, all of Eau Claire, Wis., U.S.A.

Rail joint; chamfered scarf.
Class 98.1.

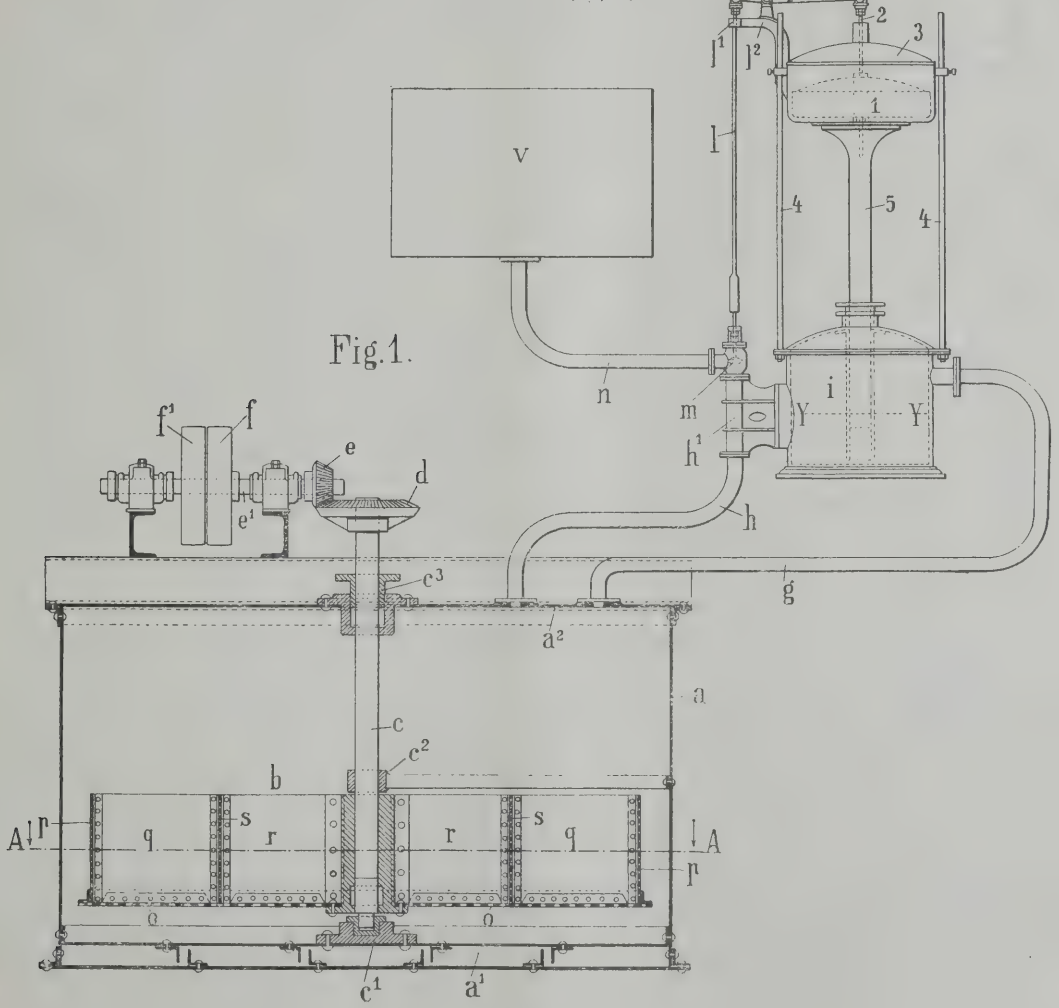
The head portion **7** of flat bottomed rails is scarfed vertically at the medial joint line **8**, and the lateral parts are sloped longitudinally in opposite directions at opposite sides **6**, **9**; the web **3**, and foot **2** have the usual vertical joint and fish plates.

2966/05



4 typed pages, 2 claims; 1 fol. dry., 3 figs.

2967/05



2967. 13 Apr. H. W. DE STUCKLÉ, Dieuze, Alsace-Lorraine, Germany, engineer (*assignee of* C. RANSON, *act. inv.*, 231 Rue La Fayette, Paris, France, chemist).

Caustic alkalies and zinc sulphides.

Classes 08.1; 08.2; 08.9; 21.80; 74.8; 79.2.

Metallic divided zinc is treated with caustic soda solution of 35° Beaume and sodium sulphide; the reaction is:—

$$2\ NaOH + Zn = Zn(ONa)_2 + H_2.$$

Zinc-sodium-oxide is first formed, which is in turn acted on by the sodium sulphide to form zinc sulphide and caustic soda, thus:—

$$Zn(ONa)_2 + Na_2S + 2\ H_2O = ZnS + 4\ NaOH.$$

The zinc and alkali are mixed in the rotary sieves **q**, **r**, in a closed tank **a**, the sodium sulphide is fed from the tank **v** through the float controlled valve **m**; when hydrogen is generated the pressure through **g** lifts the float **3**, and stops the supply through **m**; when the hydrogen reaction ceases, **m** opens and more Na_2S enters the mixer **a**.

12 *typed pages*, 16 *claims*; 1 *fol. drg.*, 4 *figs.*

(*For drawing see previous page.*)

2968. 13 Apr. W. B. HARRISON, and D. O. CASTLE, both of Stockton, San Joaquin, Cal., U.S.A., merchants.

Stacking bagged grain, &c.

Class 59.1.

The frame **1**, which is movable on four castors **2**, contains a stage **9**, and shoot **10** that are adjustable in height, a tipping hoist **5**, and winches **23**, **24** operated by the motor **13**.

The tipping stage **9** can be hoisted in parallel position by double ropes **27** from the drums **23**; and has a yoke or bail **11** (swinging on pivots in the dotted arc **x**), which, as the hoist **5** rises, engages the hook **8** and draws the upper end of **5** over to meet the shoot **10**; as the hoist continues to rise it tilts on the axle **7a** and delivers its load on top of the stack of bags.

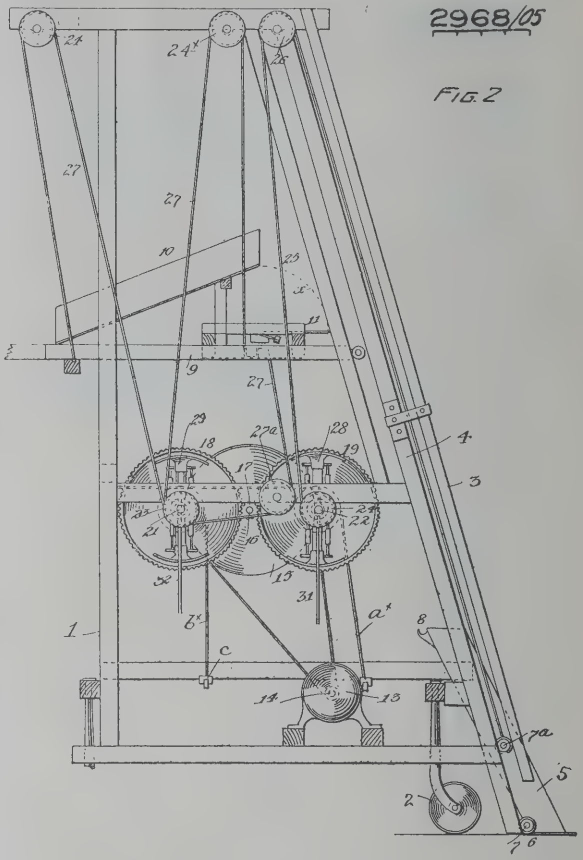
The hoisting drums **23**, **24** are connected to the continuously moving gear-wheels **18**, **19** by friction clutches **28**, **29**, and are controlled by brakes of any suitable type.

8 *typed pages*, 8 *claims*; 3 *fols. drgs.*, 3 *figs.*

(*For drawing see next column.*)

2968/05

FIG. 2



2969. 13 Apr. *Comp. withdrawn.*

S. SPILLER, 112 Denison-street, Rockhampton, Qld., gunsmith and bicycle repairer.

"Spiller's non-explodable steam boiler."

Class 63.4.

2970. 13 Apr. *Prov. only.*

J. L. KIRKBRIDE, Sentinel-road, Ponsonby, Auckland, N.Z., settler.

"An improved automatic life-guard for tram cars."

Classes 88.9; 96.2.

2971. 13 Apr. *Comp. lapsed.*

J. SHAW, opposite Royal Hotel, Stagpole-street, Townsville, Qld., railway painter.

"Letters and figures cut from sheet lead."

Class 54.1.

2972. 13 Apr. *Prov. only.*

W. ANDERSON, 78 Harris-street, Pyrmont, N.S.W., engineer.

"An instrument for lighting fires.

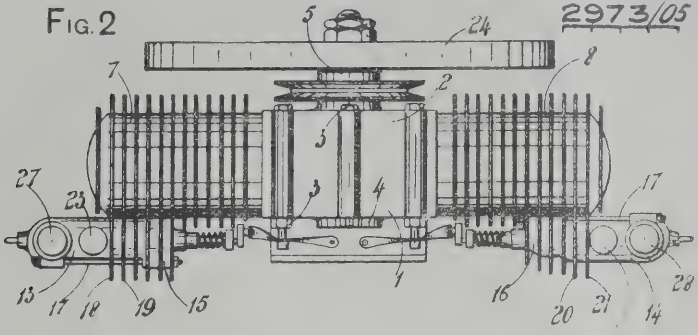
Class 20.8.

2973. 14 Apr. *C.a.P.* 8 Dec.

W. Stokes (*jun.*), Manchester-street, Christchurch, Canterbury, N.Z., cycle engineer, and J. H. Suckling, Worcester-street, Linwood, Christchurch, N.Z., pattern maker.

Balanced duplex oil engine.

FIG. 2



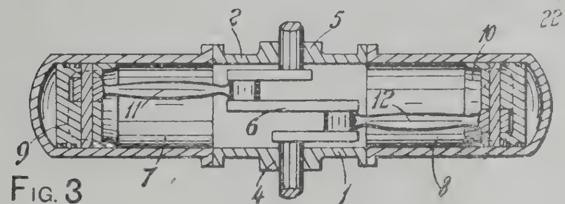


FIG. 3

Classes 66.2 ; 66.8 ; 69.6.

Two ribbed cylinders **7**, **8** mounted end to end on a central crank chamber, have trunk pistons **9**, **10** linked to cranks at 180 degrees for simultaneous explosions, thus relieving certain parts of severe reversed stresses.

The flywheel **24** has ventilating vanes attached to its arms.

Each cylinder has separate valves **13**, **14** and modified "Eisemann" spark plugs, which by connexion in series ignite the explosive charges in both cylinders simultaneously.

Prov. 3 *typed pages.*

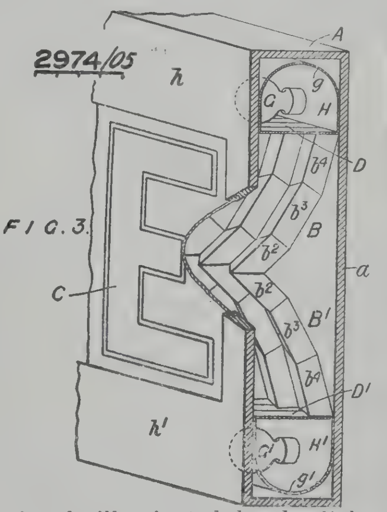
Comp. 6 *typed pages,* 4 *claims;* 2 *fols. drgs.,* 8 *figs.*

2974. 14 Apr. H. W. Chinnery, 118 Millais-road, Leytonstone-road, Essex, Eng., photographer.

Illuminated advertisements.

Class 54.1.

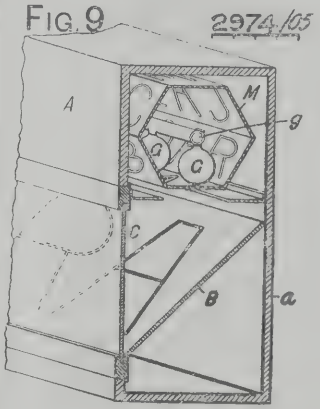
FIG. 3.



Several designs are detailed containing lamps in changeable coloured lanterns, which throw images from stencilled advertisements on screens by reflection.

In Fig. 3, to reduce the thickness of the apparatus, the large stencils or transparencies **C** are uniformly illuminated by the light of the lamps **G** from behind the coloured screens **D** being reflected from the ridged reflectors **B**, each element **b2**, **b3**, &c., being disposed at a suitable angle for equal dispersion.

FIG. 9



In Fig. 9 a succession of stencils on the several faces of the drum **M** are visible in rotation on the screen **C**, by reflection from **B**.

In other designs rotary drums are used to vary the distribution and colour of the illumination.

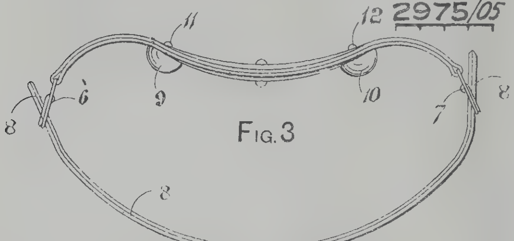
10 *typed pages,* 6 *claims;* 3 *fols. drgs.,* 9 *figs.*

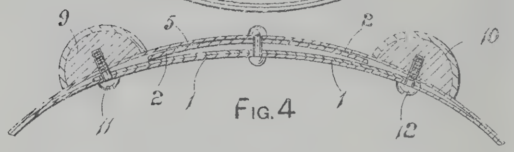
2975. 14 Apr. R. W. Gibbs, carpenter, and T. H. Manson, cab-driver, both of Nelson, N.Z.

Hernial trusses.

Class 87.4.

The pads **9**, **10**, Fig. 4, are mounted on a compound spring which is normally convex to the body; at the ends are loops or buckles **6**, **7** by which the curvature is reversed as in Fig. 3, when the truss is strapped to the body, giving a definite pressure on the desired parts. For single hernia a central pad is used.





4 *typed pages*, 4 *claims* ; 1 *fol. drg.*, 7 *figs.*

2976. 14 Apr. *Prov. only.*

J. B. DAVIES, Wheatland-road, Malvern, Vic., accountant.

"Improvements in the construction of cigarettes."

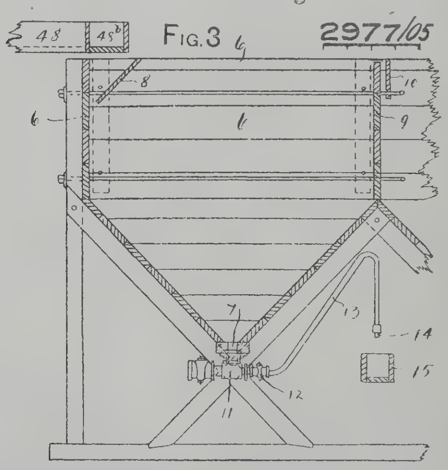
Class 33.4.

2977. 14 Apr. *C.a.P.* 20 Nov.

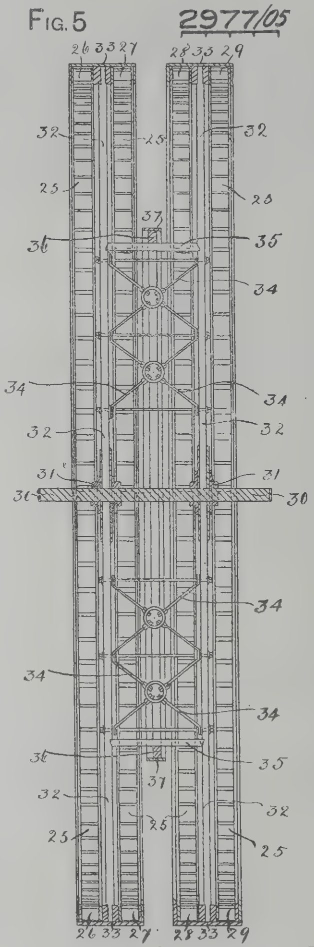
C. GLUYAS, Jubilee Gold Company Limited, Johannnesburg, Transvaal, S. Africa, mine manager.

Cyaniding slimes ; plant combination.
Classes 12.1 ; 14.4 ; 14.7 ; 68.1.

The auriferous slimes are treated in a battery of four rows of conical settling boxes to remove superfluous clear liquor, which may be stored for subsequent washing.



The sands are mixed in launders with cyanide liquor and lifted by a bucket wheel to the top of a rectangular wooden tower around which the launders descend in a lengthened passage at a gentle inclination whereby the mixing and aeration is prolonged ; second and third wheels and towers are provided to prolong the action.



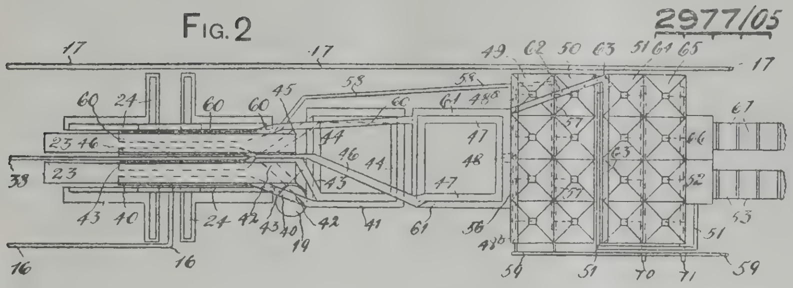
From the third stage, the rich solution is separated by a second battery of settling boxes, and the sands are washed in other boxes, and lifted to a fourth aerating tower, with weaker liquor or clear water ; the cynide solutions are enriched by the usual cyclic repetitions.

Fig. 3 shows a section of one of the settling boxes, which have conical bases and outlets **7**, with a blow-off cock at one side and regulating valve **12** at the other side leading the sands over a discharge siphon **13**, with a constricted nozzle **14**, over the collecting launder **15**.

For compactness the four bucket rims, Fig. 5, are built on one axle **30**, forming two wheels **33, 33**, with a smaller wheel **37** between them for the driving belt ; the buckets are in two circles, one on each side of the arms supporting the shrouding, and are used in the order **26, 27, 28, 29.**

In Fig. 2 the sands from the preliminary battery of boxes receive cyanide from the tank **19**, and are led by the launder **16** to the first bucket rim, and lifted to the outer spiral **41** of the first tower, then in order to the second wheel and the inner spiral **44** of the first tower, and so on, the four spirals being contained in the insides and outsides of two aerating towers.

FIG. 2



The batteries of separating and washing boxes are shown at **49** to **65**; **52** and **66** are two stages of filter boxes, and **53**, **67** are the extractor boxes for precipitation by zinc; extensive sumps for liquor are provided.

Prov. 5 *typed pages.*

Comp. 13 *typed pages,* 4 *claims;* 3 *fols. drgs.,* 5 *figs.*

2978. 14 Apr. *Prov. only.*

A. M. CAMPBELL, 55 Liverpool-street, Hobart, Tas., mechanical engineer.

"Combined jack, luggage carrier, and mud guard for cycles and motor cycles."

Class 94.9.

2979. 14 Apr. *Comp. lapsed.*

W. T. JENKINSON, Pulteney-street, Adelaide, S.A., bootmaker.

Non-rotating rubber heels.

Class 44.3.

The rubber top lift attached to a boot heel by two visible screws **C** and four shorter nails **D** has a thin metal plate **A** (dotted in Fig. 2) embedded in it; a renewable rubber disc, Fig. 1, is attached in a circular recess by the screw **E**, and has four recesses fitting over the heads of the screws **D**, and also an embedded metal plate (dotted outline **B**). The circular disc may be given a quarter-turn after slacking the centre screw **E**, to change the worn part.

FIG. I

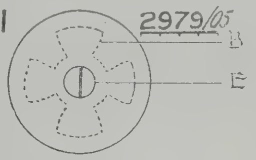
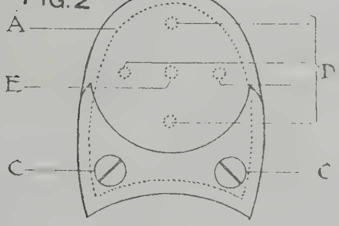


FIG. 2



4 *typed pages,* 3 *claims;* 1 *fol. drg.,* 4 *figs.*

2980. 14 Apr. *Prov. only.*

W. WATERS, 3 Johnston-street, Fitzroy, Vic., farrier.

"An improved currycomb."

Class 39.3.

2981. 14 Apr. *C.a.P.* 15 Jan., 1906.

E. GIULIETTI, Milan, Italy, engineer.

Theatrical machinery.

Classes 53.4; 59.2.

Combinations of elevating devices for facility in rapid changes of scenery are detailed.

Fig. 2 is a longitudinal section from the front stalls to the back of the stage. There are three compartments; I. for changing wing scenery, front and lateral apparatus; II. for the vertical changing of the entire stage or flooring; III. for handling drop scenes at the back, which is of usual character.

In compartment II. comprising the maximum floor area, there are four screwed columns **B**, and four rack pillars **H**; the uppermost stage **A**^{1} is limited to a man's height, and contains the motors and scenery which operate the coupled nuts on the screws and the pinions on the rack columns; the screwed nuts are each separately geared to the adjoining rack pinions to insure simultaneous action. The lower stages **A**^{2} are suspended by hauling ropes **p**, which may be independently operated for each stage; when desired a lower stage may be used to assist the support of arc above. The stage **A**^{1} has an extra set of ropes passing over roof pulleys to an independent motor in the well.

A modification for smaller theatres is outlined, containing supplementary hydraulic gear.

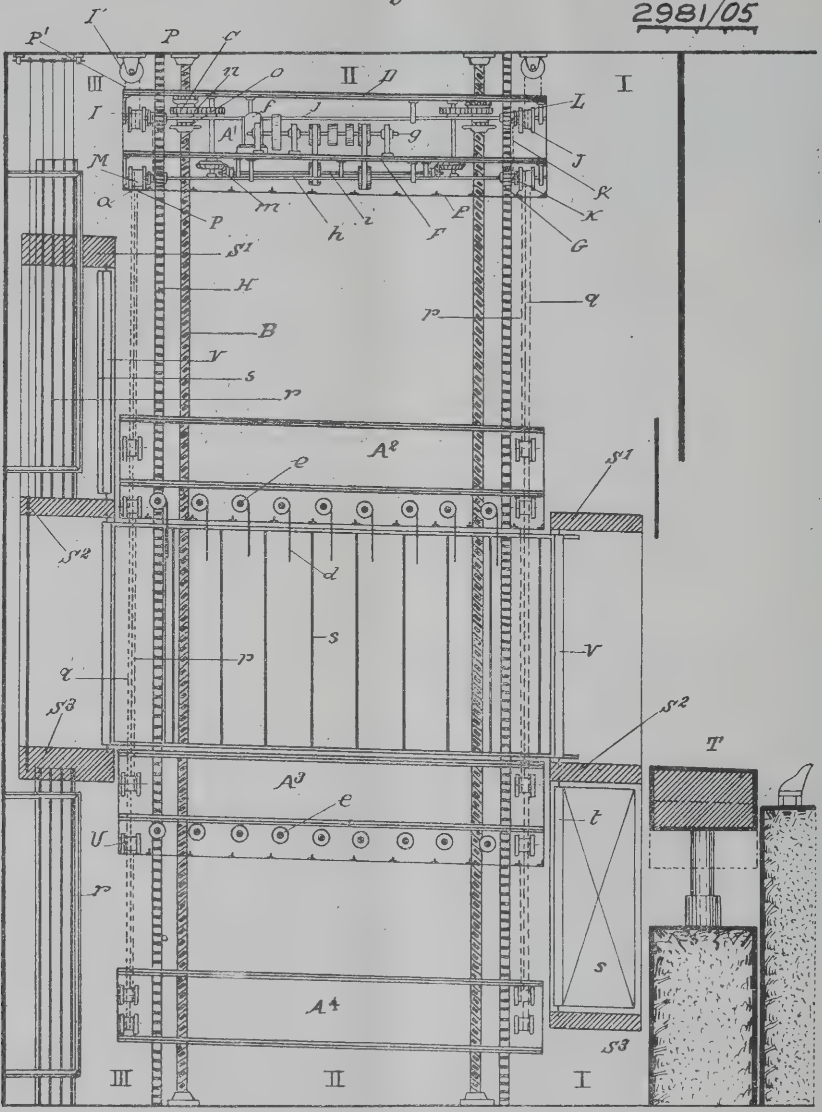
Prov. 10 *typed pages.*

Comp. 12 *tpd. pp.,* 11 *claims;* 5 *fols. drgs.,* 8 *figs.*

(*For drawing see next page.*)

Fig. 2.

2981/05



2982. 14 Apr. *Prov. only.*
A. Sell, Colac, Vic., builder.

"An improved apparatus manually operated for lifting, loading, unloading, and stacking goods or merchandise."

Classes 59.1; 93.1.

2983. 14 Apr. T. Hitchen, 52 Pyrmont Bridge-road, Camperdown, N.S.W., oven builder and bakery engineer.

Bakers' ovens.

Classes 16.8; 24.2; 34.6.

A rack on one edge of the door is engaged by the pinion **6** turned by the handle **9**; the door slides vertically in guides which have spring fastenings to allow expansion; rollers fitted in the edge of door reduce the friction; a chain **11**, and counter-weight balance the door. A rail **12** is placed conveniently as a rest for the baker's "peels."

A spring roller may be used instead of the balance weight.

5 *typed pages,* 7 *claims;* 2 *fols. drgs.,* 9 *figs.*

(For drawing see next page.)

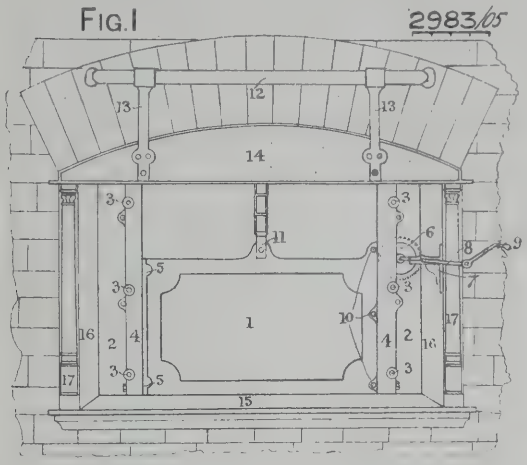


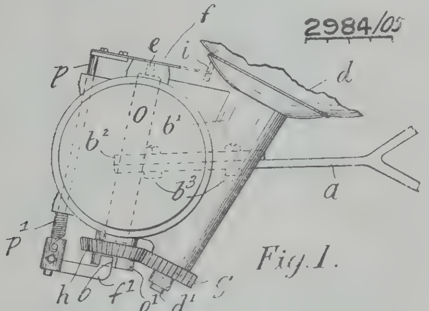
FIG.I 2983/05

2984. 14 Apr. *C.a.P.* 27 June.

J. J. Charley, Harefield, N.S.W., farmer.

Bait distributor ; cart trailer.
Class 38.9.

A light frame **a** with a forked end may be hooked on the axle of any vehicle and trailed behind ; the frame carries an oblique plough disc **d**, which drives the bait feed and pellet cutter by gear **g**, **h**.

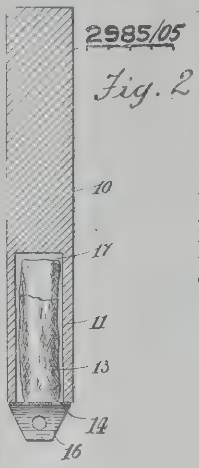

2984/05 Fig.1.

The bait holder **b** may have a transverse feed **o** at the bottom extruding dough at **e** ; the dough is cut into pellets by the knife **f**, that may be lifted either by cam **o**^{1} on the feed gear, or by a pin **i** on the plough disc ; the knife is pressed down by the spring **p**^{1} on its rock shaft **p**. Any other devices, spouts and adjuncts may be substituted or combined.

A hand lever on the cart lifts the plough off the ground when travelling.

Prov. 4 *typed pages.*
Comp. 7 *typ. pages,* 10 *claims ;* 1 *fol. drg.,* 4 *figs.*

2985. 15 Apr. G. G. Turri, Salisbury Building, 150 Queen-street, Melbourne, Vic., patent attorney.


2985/05 Fig. 2

Application under Sec. 7— Vic. ... 21,366 ... 9th March, 1904.

Laundry bluing stick.
Classes 25.2 ; 26.5.

For convenience of handling, the blue ball or lump is wrapped in fabric and placed in a cavity in a perforated handle ; the lower end has a cover **14** with an eye **16** by which the stick may be hung up when not in use, so that the cavity will catch the unused drainings.

5 *typed pages,* 5 *claims ;* 1 *fol. drg.,* 5 *figs.*

2986. 15 Apr. *Prov. only.*

A. J. F. de Bavay, "Florimel," Gellibrand-street, Kew, Vic., brewer and chemist.

> "An improved apparatus for separating by flotation parts of the constituents of ores, and other solid bodies, from the remainder thereof."

Classes 12.5 ; 14.7.

2987. 17 Apr. *Prov. only.*

G. E. Richardson, Port-road, Thebarton, S.A., engineer.

> "An improved machine for disintegrating clay or other soft matrix."

Classes 10.8 ; 12.1.

2988. 17 Apr. *Prov. only.*

W. Trembath, liverystable keeper, and A. Latham, timber merchant, both of Mersey street, Gore, N.Z.

> "Trembath's champion improved cover."

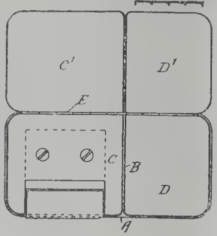
Class 39.5.

2989. 17 Apr. W. Silver, Tamworth, N.S.W., timber merchant.

Tobacco box with cutting blade.
Classes 10.7 ; 33.5.

A metal box has compartments for tobacco and matches with separate lids, shown open in Fig. 1.

Fig. 1. 2989/05



A steel knife is attached to a slot in the bottom against which the tobacco may be shredded so that the particles fall inside.

The front of the slot is springy and normally protects the edge; the pressure of the tobacco depresses this plate and brings the cutting edge into play.

3 typed pages, 2 claims; 1 fol. drg., 3 figs.

2990. 17 Apr. The Spiral Steam Tube Cleaner Co. Ltd., O'Connell-street, Sydney, N.S.W., manufacturers, and J. H. Decent, Lucas-road, Burwood, N.S.W. (*assignees of* H. R. Romney, *act. inv.*, 50 Broadway, Crouch End, Middlesex, Eng., gentleman, and C. Baddeley, *act. inv.*, 15 Ethnard-road, Old Kent-road, London, Eng., gentleman).

FIG. I 2990/05

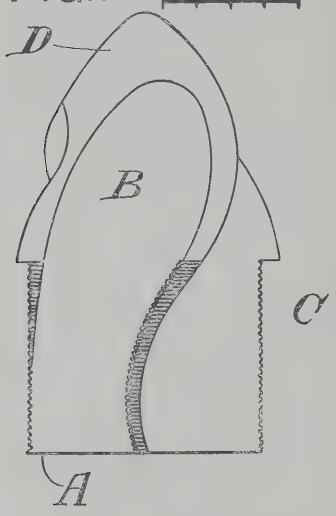
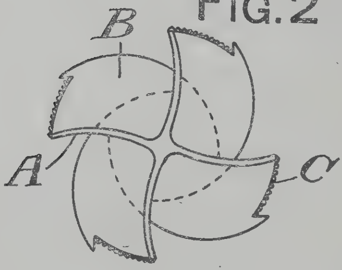


FIG. 2



Application under Sec. 7—

N.S.W.	...	8148	...	5 Feb., 1898
Vic.	...	14,954	...	7 Feb., 1898
Qld.	...	4282	...	8 Feb., 1898
S.A.	...	5268/3941	...	9 Feb., 1898
W.A.	...	1951	...	15 Feb., 1898
Tas.	...	2108	...	22 Feb., 1898

Spiral jet for tube cleaning.

Classes 17.2; 74.9.

A plug for screwing into the end of a steam or water tube for cleaning boiler tubes, &c., has spiral passages **B** which are deeper at the base than the outer end; the pitch of the vanes **A** is such that the re-action tends to screw the plug into the pipe.

3 typed pages, 2 claims; 1 fol. drg., 2 figs.

2991. 17 Apr. The Engineering and Development Company, New York, U.S.A., engineers (*assignees of* K. A. A. Staahlgren, *act. inv.*, New York, U.S.A., mechanical engineer).

Pair-wheel lobed motor.

Classes 67.7; 67.8.

The rotor wheels, Fig. 3, are coupled by the external gears **23**, **24**; to avoid dead points the partition **11** divides the motor into two parts at 180 degrees phase.

Fig. 1. 2991/05

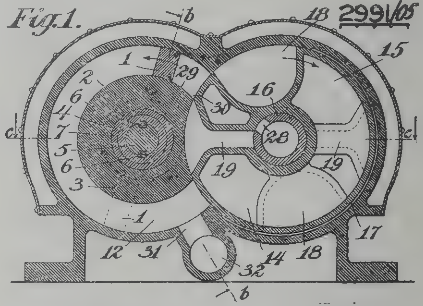
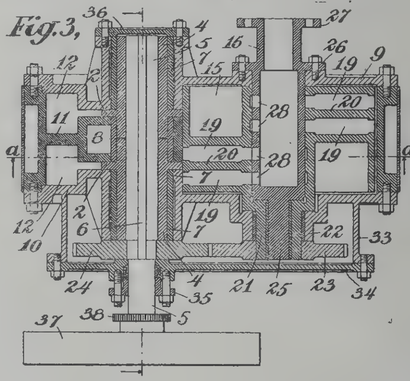


Fig. 3,



The centre **3** of the driving wheel does not rotate, but is attached to the partition **11**, and the piston-lobe **1** is packed at both inner and outer edges.

The follower, Fig. 1, has the usual gap **18** for clearing the piston, and runs on a steam trunnion **16**, with a port **28** (to adjust the expansion) which co-operates with a radial passage **19** having a flared mouth. The exhaust **32** is always open.

8 typed pages, 7 claims; 2 fols. drgs., 5 figs.

2992. 17 Apr. *C.a.P.* 5 Dec.

C. J. Johnson, Point Chevalier, near Auckland, N.Z., engineer; and J. Carlaw, Auckland, N.Z., waterworks engineer.

Smoke consuming fire bridge.
Class 17.7.

The fire-bridge **A** of an internal furnace is built up to entirely fill the boiler flue, and has several holes **C** placed in such a position that the gases are drawn down from the furnace crown at **B**, and receive additional heat as they pass through the bridge, after which, to promote more complete combustion, they are mixed with a fresh supply of air drawn from below the fire bars through the hole **F**.

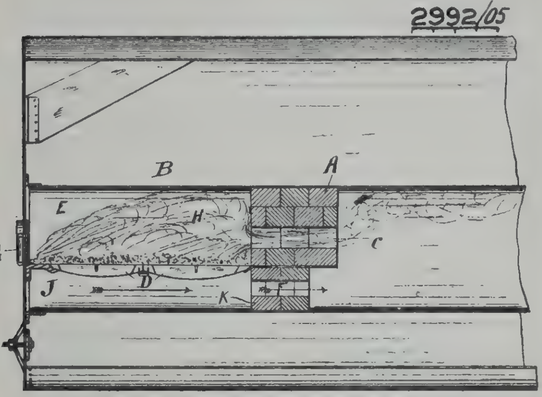


FIG.2.

Prov. 3 *typed pages.*
Comp. 5 *typ. pages,* 3 *claims;* 1 *fol. drg.,* 2 *figs.*

2993. 17 Apr. *Prov. only.*

F. E. Gard, bootmaker; A. R. Polley, brewer; and C. H. Watson, painter, all of 447 Oxford-street, Paddington, N.S.W.

"Improved fastening for mail bags and other like purposes, with tongs to close and open same."

Classes 54.3; 77.7.

2994. 17 Apr. W. S. Rice, Adams, Jefferson, New York, U.S.A., physician.

Application under Sec. 7—

N.S.W.	... 13,654	... 3rd Nov., 1903
Vic.	... 21,080	... 4th Nov., 1903

Improvements in trusses for hernia or rupture; truss adjustments.
Class 87.4.

The pads may be adjusted after the truss has been applied. The breech strap **28** passes through a loop **24** at the lower point of the pad. The pad is attached by a rotary plate **19** with a clamping screw **35**, and the circumferential belt is forked at **14**, **14** to adjust the pull tending to twist the pad.

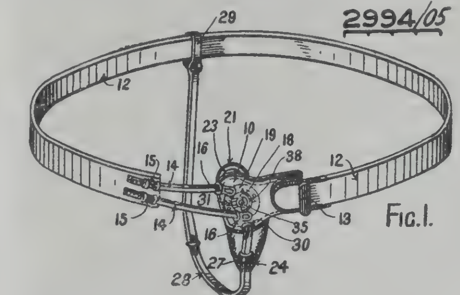


FIG.I.

8 typed pages, 12 claims; 1 fol. drg., 6 figs.

2995. 17 Apr. *Prov. only.*

P. Holt, 204 and 206 Latrobe-street, Melbourne, Vic., wicker-worker.

"Hand street sweeper running on wheels."

Classes 86.5; 93.1.

2996. 17 Apr. *Prov. only.*

J. D. Jackson, 6 Burns-street, Prahran, Vic., plumber.

"Improvements in and relating to perambulators and the like."

Classe 93.2.

2997. 17 Apr. *Comp. lapsed.*

M. Newton, 95 Elizabeth-street, Sydney, N.S.W., patent attorney (*communicatee of* Count A. de Dion, *act. inv.*, and G. Bouton, *act. inv.*, both of 3 Rue Meyerbeer, Paris, France, engineer).

"Improvements in disc couplings."

Classes 62.8; 95.9.

2998. 18 Apr. *Prov. only.*

C. S. Panton, Castlereagh-street, Sydney, N.S.W., analyst.

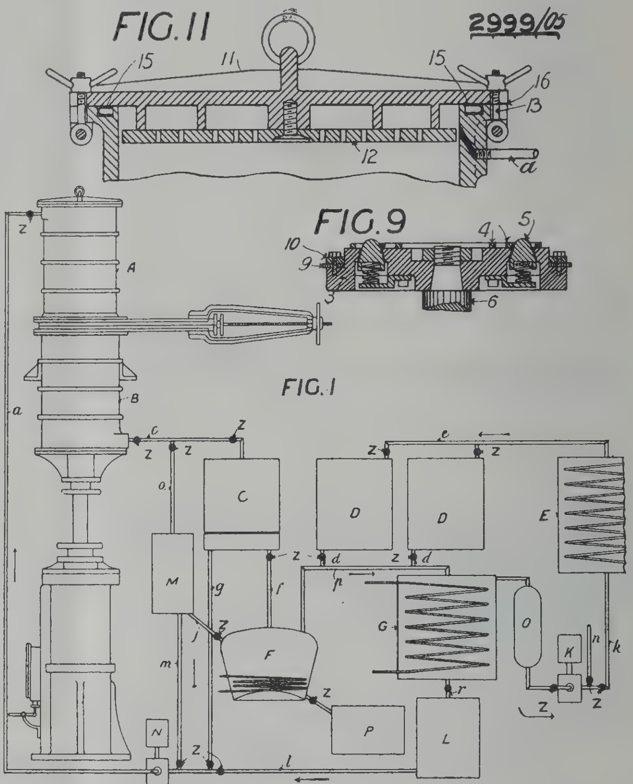
"Process for preserving fruit, eggs, and grain."

Classes 34.7; 35.9.

2999. 18 Apr. A. H. Burt, Mosman, N.S.W., civil engineer; H. Jackson, Sydney, N.S.W., wool expert; and C. A. Finch, Sydney, N.S.W., analytical chemist.

De-greasing wool by volatile solvents.

Classes 25.4; 28.5; 57.3; 65.1.



The wool is placed in a covered press of two chambers **A**, **B**, Fig. 1, separated by a perforated sliding door, and provided with a false bottom, Fig. 9, and hydraulic ram **6** for transferring material from the lower to the upper chamber, and for squeezing the bale between the false bottom and the sliding door or lid.

The bale is pricked with long inspirating needles to promote saturation and placed in the chamber **B**, and is submerged in solvent by the pipe **a**, the top cover and the mid-door being closed; repeated squeezing between the piston and mid-door thoroughly dissolves the fat; the mid-door is drawn, the liquor squeezed out against the cover, Fig. 11, and the solvent is drawn off to the filter **C**, or reservoir **M**.

The bale is transferred to a drying box **D**, which is closed, and the remaining solvent removed by hot air, exhaustion, and condensation; the needles are not removed until the bale is removed dry.

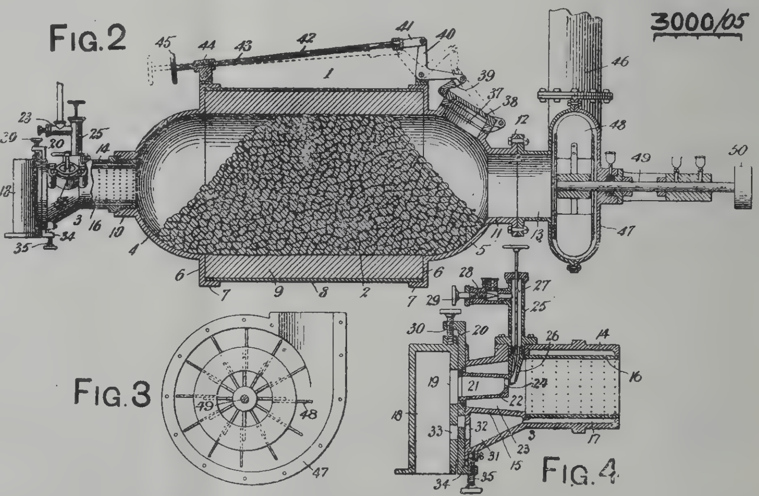
The bulk of the solvent is separated from the fat by the usual distillation plant.

13 *typed pages* 7 *claims;* 4 *fols. drgs.,* 14 *figs.*

3000. 18 Apr. Leede Process Company, 1307 Stephen-Girard Building, Philadelphia, Penn., U.S.A., exploiters of gas apparatus and mining machinery (*assignees of* J. Leede, *act. inv.*, 2520 Druid Hill-avenue, Baltimore, Maryland, U.S.A., mechanical engineer).

Oil-fuel-gas plant.

Classes 16.2; 21.3; 23.7; 60.3.



In the apparatus, Fig. 2, oil is burnt in the burner **14**–**18**, with a full supply of air at high pressure; the flame raises the brickwork **2** in the regenerative retort **1** to incandescence; the oil supply is then greatly increased, and the resulting smoke is converted into fuel-gas in passing the retort; the air valve **37** is opened and the suction fan draws in air, which, mixed with the fuel-gas in desired proportions, is forced by the fan **48** through the main **46** to the place of use or storage.

The burner, Fig. 4, has a drip pipe **26** with a needle-valve **28** for the oil supply, and a cleaner **27**; the air jet **24** is mounted on a slide valve **34** so that, simultaneously with its adjustment opposite the drip pipe, the amount of air is varied by the ports **32**, **33**; the combustion cavity **14** has a perforated jacket **16** through which air is supplied.

The proportions of air and fuel-gas sucked by the fan are regulated by adjusting the cover **37** by the screw **43**, and also by varying the speed of the fan by means of a speed regulator having two parallel friction cones, which, instead of being coupled by the ordinary belt, are connected by a friction ring of metal which is nipped between the cones and adjusted by a sliding fork and screw.

12 *typed pages*, 6 *claims*; 3 *fols. drgs.*, 8 *figs.*

3001. 18 Apr. P. Gavin, Hauiti, East Coast, Auckland, N.Z., shepherd.

Sash fastener.

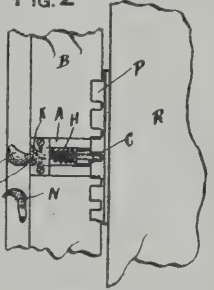
Classes 77.1; 78.7.

The catch frame **A** is slotted to receive a bolt **C** held up by the coiled spring **H** placed around the flat spring **D** which is pivoted to the bolt **C**.

The spring bolt engages with a rack **P** on the window frame **R** and holds the sash as required.

3001/05

Fig. 2



4 *typed pages*, 2 *claims*; 1 *fol. drg.*, 6 *figs.*

3002. 18 Apr. *Prov. only.*

C. F. Sievwright, 71 Queen-street, Auckland, N.Z., business manager.

"A door and window grip."

Classes 77.1; 78.7.

3003. 18 Apr. *Prov. only.*

J. Berry, Marine-parade, Abbotsford, Vic., engineer, and F. H. Longman, 84 Park-street, Middle Park, Vic., engineer.

"Improvements in and relating to apparatus for recovering sulphides when separated from their ores."

Class 12.4.

3004. 18 Apr. *C.a.P.* 31 Oct.

F. Barrow, 406 Sussex-street, Sydney, N.S.W., manufacturer (*communicatee of* A. Freschl, *act. inv.*, Chicago, Ill., U.S.A., upholsterer).

Moulding and tufting cushions.

Class 46.1.

A base board **22**, moulded to the desired shape for the tufted cushion, has spring button-holders **34** on the projections of the mould, which grip the buttons **49** with their split shanks upwards; over this the cloth **56** is laid and the tubular pleaters **45** split in the direction of the pleats are pressed over the button holders with their conical handles **43** projecting upwards; an extension frame or mould box **28** is then placed on the base, and when filled with stuffing is pressed down by a perforated presser board, as in Figs. 6 and 7, the frame **28** and board **29** are then removed, the pleaters **43–45** are removed and the cloth backing **51** is placed over the button; the frames are then replaced to hold down the stuffing; washers are then placed over the button shanks and clinched through the holes in the presser board.

3004/05

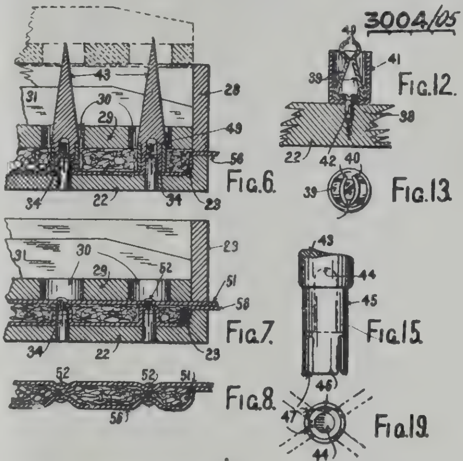


Fig. 8 shows the finished cushion in section, and Fig. 12 a metallic spring button holder **40**.

Prov. 3 *typed pages.*
Comp. 8 *typed pp.*, 8 *claims*; 1 *fol. drg.*, 21 *figs.*

3005. 18 Apr. *Prov. only.*

M. J. Allan, 221 Corio-street, East Geelong, Vic., gentleman.

"Improvements in eye-pieces for microscopes."

Class 00.4.

3006. 19 Apr. *Prov. only.*

F. M. Baker, 38 Bayswater-road, Sydney, N.S.W., civil engineer (*assignee of* T. Westring, *act. inv.*, 213 Victoria-street, Darlinghurst, N.S.W.).

"Improvements in ear-trumpets."

Classes 01.1; 87.4.

3007. 19 Apr. *Prov. only.*

Hannah M. Hope, 7 Charnwood-road, St. Kilda, Vic., spinster.

"Improvements in dustpans."

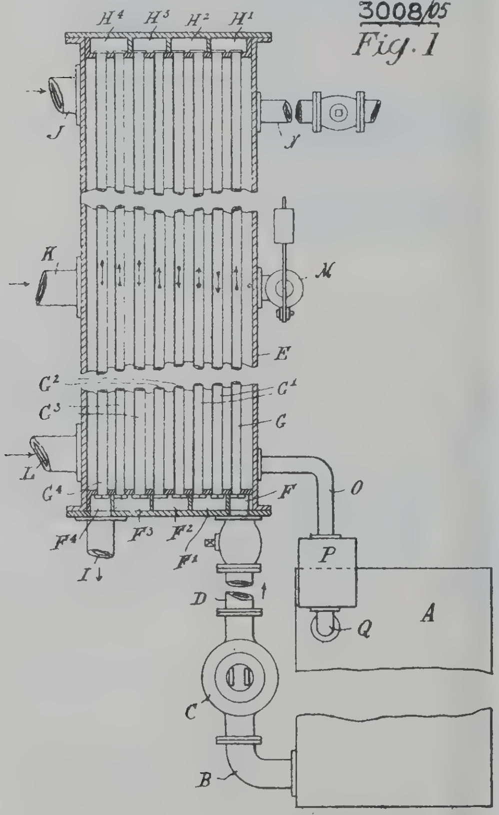
Class 25.9.

3008. 19 Apr. C. L. Smith, Charters Towers, Qld., mining engineer, and D. Robertson, Charters Towers, Qld., blacksmith.

Tubular boiler-feed heater.

Classes 63.2; 63.8.

A multi-tubular heat interchanger has the end chambers subdivided and connected to alternate rows of tubes, so that cold water from the tank **A** is forced by the pump **C** in a zigzag manner through the tubes and end chambers to the exit **I** leading to the hot water tank.


3008/05
Fig. 1

The exhaust steam pipes from the boiler are led into the tube chest at **J, K, L**; condensed water rises by **O** to an oil separator **P**; uncondensed steam passes off at **N**.

5 *typed pages*, 2 *claims*; 1 *fol. drg.*, 1 *fig.*

3009. 20 Apr. *Prov. only.*

D. Black and W. W. Black, both of 159 Market-street, Johannesberg, Transvaal, S. Africa, mechanical engineers.

"Improvements in and relating to drills or bits for drilling holes in rock and the like."

Class 85.8.

3010. 20 Apr. *Prov. only.*

T. P. Obbinson, 310 Lygon-street, Carlton, Vic., dentist.

"An improved segmental driving belt of vulcanite or like material for motor cycles and the like."

Classes 62.7; 94.7; 95.9.

3011. 20 Apr. *Prov. only.*

G. H. L. Roeger, Klemzig, S.A., carpenter.

"Improvements in apparatus for drying fruit and vegetables."

Classes 17.5; 34.7.

3012. 20 Apr. *Prov. only.*

A. J. Cuming, 769 Sydney-road, Brunswick, Vic., engineer.

"Improvements in and relating to the propulsion of wheeled vehicles."

Classes 02.1; 62.8; 95.9.

3013. 20 Apr. *Prov. only.*

A. J. Cuming, 769 Sydney-road, Brunswick, Vic., engineer.

"Improvements relating to the supporting, driving, and braking of wheeled vehicles.'

Classes 93.5; 95.7; 95.9.

3014. 20 Apr. *Prov. only.*

A. J. Cuming, 769 Sydney-road, Brunswick, Vic., engineer.

"Improvements relating to the framework of road vehicles and method of attaching wheels thereto."

Classes 93.3; 95.7.

3015. 20 Apr. *Prov. only.*

A. M. Nicholas, 410 Collins-street, Melbourne, Vic., mining engineer.

"An improved air and gas compressor."

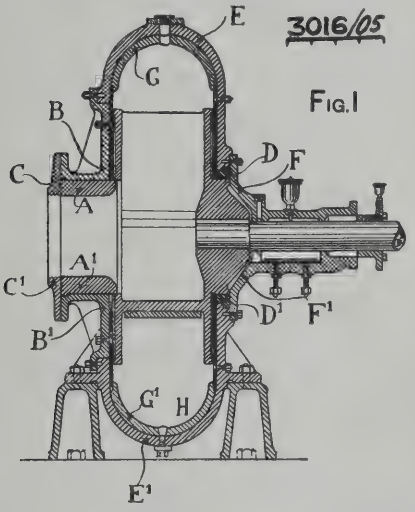
Class 69.1.

3016. 20 Apr. J. Sands, Druitt-street, Sydney, N.S.W., engineer (*assignee of* H. B. Woolnough, *act. inv.*, Druitt-street, Sydney, N.S.W., engineer.

Liners, &c., for dredging pumps.

Classes 68.7 ; 84.8.

A reversible metal ring or bush **A**, **A1** is held in place by an enlargement or bead against the flange **C** of the suction pipe.



3016/05

Fig. 1

Another metal ring **D**, **D1**, to compensate for wear at the thrust end of the shaft, is held between the bearing bush and the main casing **E**.

Case liners **G**, **G1** are attached by bolts to slotted holes in the casing to save fitting ; the holes are made tight by elongated external washers.

6 *typed pages*, 3 *claims* ; 1 *fol. drg.*, 2 *figs.*

3017. 20 Apr. *C.a.P.* 30 June, 1905. *Lapsed.*

G. F. Smith, 34 Dowling-street, Redfern, N.S.W., carter.

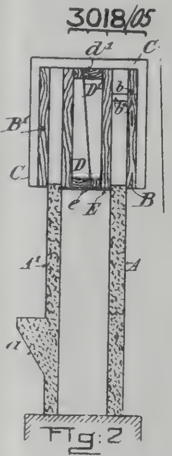
"Improved metal bung or chive to be affixed to casks or any other vessel to contain liquids and so that a tap can be attached thereto if required.

Classes 57.2; 57.5.

3018. 26 Apr. H. A. Goddard, Ada-street, Concord, N.S.W., contractor.

Hollow concentric walls ; duplex moulds, &c.

Class 81.1.



3018/05

Fig: 2

Hollow concrete walls, with relatively large spaces crossed by stays of concrete, are moulded in double boxes in which the outer planks **B**, **B1** are held by iron cramps **C**, and the inner boards have oppositely tapered ribs **D**, **D1** to facilitate removal.

Mouldings or projections such as **a** for carrying the joists, &c., and holes for wooden plugs, may be moulded simultaneously with the wall.

6 *typed pages*, 6 *claims* ; 1 *fol. drg.*, 5 *figs.*

3019. 26 Apr. *Comp. lapsed.*

W. C. Norman, May-street, Marrickville, N.S.W.

"The simplex automatic door fastener."

Class 78.8.

3020. 26 Apr. *Prov. only.*

R. R. Douglas, Dunedin, N.Z., engineer.

"Improvements in pins."

Classes 60.1 ; 60.9 ; 84.6.

3021. 26 Apr. *C.a.P.* 23 Jan., 1906.

A. Cormack, 26 Jamieson-street, Sydney, N.S.W., engineer.

Trap-door and pit traps.

Class 38.7.

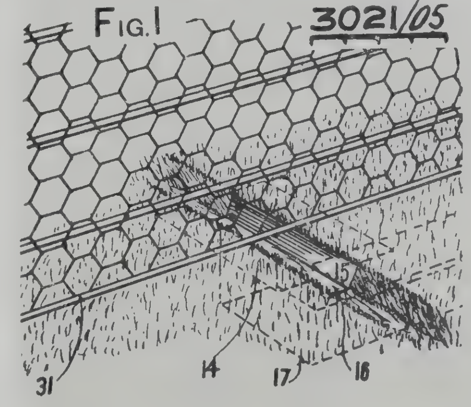


Fig. 1 3021/05

The trap-doors are placed, Fig. 1, in the floor of a depressed sheet metal trough **14, 15**, leading under a fence which the animals desire to pass; the doors open into an underground passage leading away to a catch-pen or housing.

Fig. 3 shows double trap-doors **18, 19** meeting at the free edges, pivoted at **22, 26**, and held by detent levers **30, 25**; each door has depending arms **23, 28** that are linked to the lower arm of the detent lever for the opposite door; thus neither door is released until the weight of the animal rests on both, which give way simultaneously and suddenly; the doors are automatically restored by the counterbalance weights **32**.

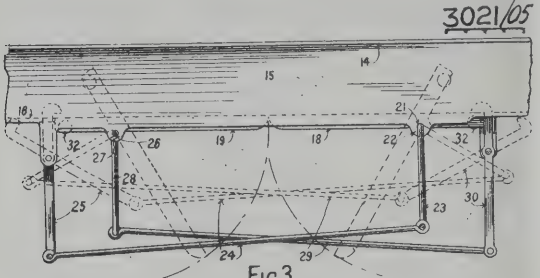


FIG.3.

In Fig. 8 the depressed trough is omitted, the trap-door **18** is balanced by the spring **42**, and locked by the catch **36** at the foot of the vertical gate **19**, swinging in a gap **44** in the fence; the animal is induced by the view of the grass or bait to push against **19** and liberate the trap-door. Re-setting is done by the spring **42** and weight **45**.

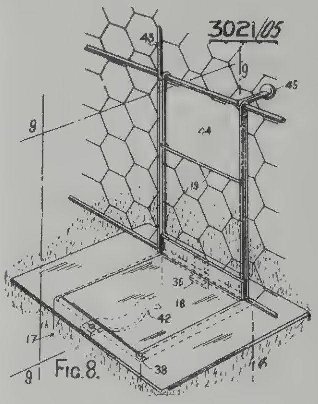


FIG.8.

Five other combinations of trap-doors and detent devices are also illustrated.

Prov. 3 *typed pages.*
Comp. 8 *typed pages*, 8 *cls.*; 4 *fols. drgs.*, 13 *figs.*

3022. 26 Apr. *C.a.P.* 29 Nov.

P. HEDGES, Equitable Building, Collins-street, Melbourne, Vic., patent attorney (*communicatee of* E. LARGE, *act. inv.*, 17–21 Temperance-street, Toronto, Ontario, Canada).

Tyre covers; triple grip wires.
Class 97.83.

To enable the covers to grip the rim without means for tightening the wires, and without seats on the rim into which the wires seat themselves after the inflation, the canvas cover is made double, with three wires **1, 2, 3** of constant length disposed each for one-third of its length in the edge-fold of the inner layer **B**, and for two-thirds in the edge of the outer layer **A**.

When the outer layer expands over the air-tube, the two-thirds circumference **C**, Fig. 4, is pulled away from the rim, thus tightening the one-third **D** of the inner layer against the part of the rim trough which is of lesser diameter; the three tight parts of the wires are equally disposed around the circumference.

Fig. 3 shows part of the cover opened out; the inner layer **B** is cut diagonally from the canvas to give greater lateral extensibility than with the outer layer **A** which is cut parallel to the warp; the fold of **A** is turned under the wires, and of **B** over the wires and the fold of **A**.

At three points (120 degrees apart) there are apertures **a** in the fold of the layer **A**, to allow the wires passing in and out; in the figure, wire **3** is wholly in the outer layer for its two-thirds section, and wires **1** and **2** are crossing in the aperture **a**.

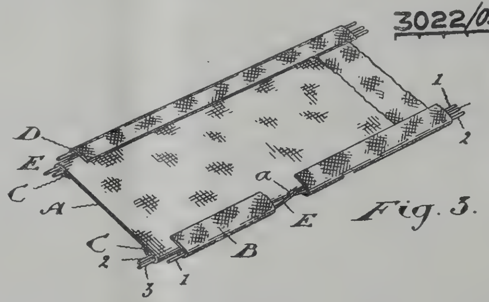


Fig. 3.

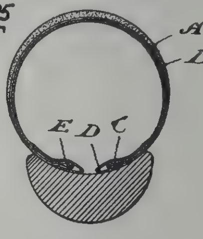


Fig. 4.

Fig. 4 also shows the usual outer tread layer of rubber.

Prov. 5 *typed pages.*
Comp. 8 *typed pages*, 5 *cls.*; 1 *fol. drg.*, 4 *figs.*

3023. 26 Apr. *C.a.P.* 15 Jan., 1906. H. C. Stanley, Brown Hill, Kalgoorlie, W.A., engineer.

Griffin mills.
Classes 10.3 ; 60.8.

The usual bearing rings, alternately of steel and bearing alloy, for supporting the load in Griffin mills, are replaced by a pair of ball races **K**, which occupy the same space and are similarly adjusted by the screws **H**.

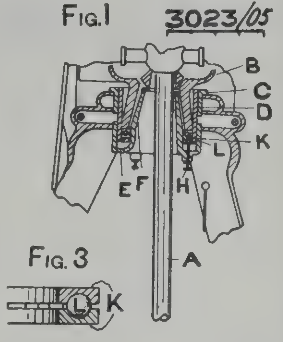


Fig. 1 3023/05

Fig. 3

Prov. 3 *typed pages* ; 1 *fol. drg.*, 4 *figs.*

Comp. 3 *typed pages*, 2 *claims.*

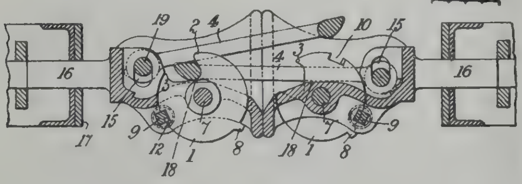
3024. 26 Apr. A. B. C. Coupler Limited, Queen Anne's Chambers, Tothill-street, Westminster, London, Eng. (*assignees of* J. T. Jepson, *act. inv.*), same address.

Shackle-latch buffer-couplings.
Class 96.3.

The coupling in Vic. 19,597/02 is modified for tight coupling suitable for passenger cars, and to avoid the high lifting of the shackles under the platforms of vestibule cars.

Instead of the points of the shackles being lifted clear above the points of fixed hooks, the rotating disc-hooks **2** are used, which normally stand (as at the right of Fig. 2) so that an opposing latch-shackle **4** will meet the opposite jaw **3** of the hook-gap, push it back and rotate the hook-disc **1**, raising the point **2** up behind the cross bar of the shackle, as shown at the left of Fig. 2 ; the hook-disc is locked in that position by a transverse spring bolt **9** which drops into the notch **10** (from either side) as soon as it is opposite.

Fig.2 3024/05



The transverse bolt **9**, Fig. 7, has two notches **11**, so that the hook-disc may be released by pulling it to either side, whilst the opposing springs **12, 13** hold it central in the locking position; as soon as the disc is released and the notch **10** passes the rod **9** when cars are uncoupled, the edge of a notch **11** presses frictionally against the rim of the disc and holds it in the position as on the left of Fig. 2.

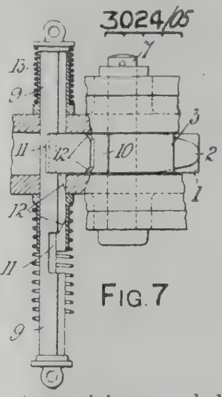

3024/05

Fig. 7

The idle shackle **4** (to the left in Fig. 2) rises at the heel in the slot **15** and lies above its fellow without requiring much headway.

This coupling may have a "Norwegian" hook for co-operation with the "Jones" coupling on the Indian meter-gauge railways.

14 *MS. pages*, 6 *claims;* 3 *fols. drgs.*, 7 *figs.*

3025. 26 Apr. J. Moeller, 26 Victoria-street, Westminster, London, Eng., gas engineer, E. de Valeriola, 3 Rue Watteau, Brussels, Belgium, gas engineer, and E. Sepulchre, 21 Boulevard de Hainhault, Brussels, Belgium, gas engineer.

Ammonia treatment of incandescing fabrics.
Class 23.5.

Thread for mantles is impregnated with the earthy nitrates, squeezed and dried ; a short exposure to ammonia vapour reduces the outer part to insoluble hydrated oxide, and the equivalent of ammonia nitrate is washed out with distilled water.

The thread is made into mantles, and on ignition the oxide layer is consolidated by the remaining earthy nitrate when melting, producing a much more tenacious article than by the ordinary processes.

The process may also be used with mantles woven from artificial silk impregnated during the manufacture.

6 *typed pages*, 3 *claims. No drawing.*

3026. 26 Apr. B. Hunt, Tres Amigos Mine, Punta Arenas, Costa Rica, Central America, metallurgical chemist.

Gravitation slime filter.
Classes 14.7 ; 28.1 ; 60.3.

The filtering material is coarse sand which is arranged in nearly vertical layers supported by inclined frames **1**', Fig. 3, covered with horizontal louvres **12** ; a pair of the louvres partitions form a space widening towards the bottom, which is fed with slimes at the top, the liquor percolates through the louvres into the coarse sand and is carried away from the bottom of the sand layers.

FIG. 1. 3026/05

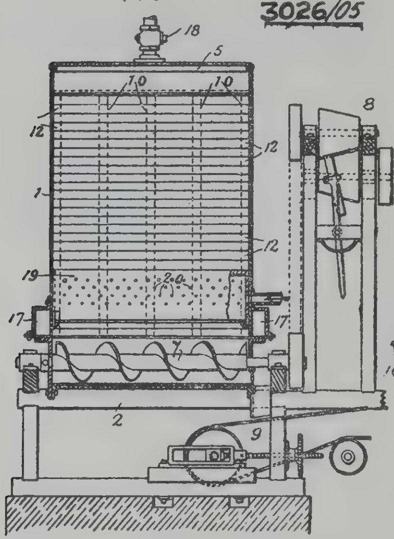
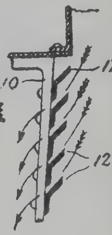


FIG. 3.



The more solid part of the slime is removed continuously from the bottom by the spiral creeper **7**, which is driven at a speed so regulated by the ring-and-cones speed-adjuster **8** that the material is removed from the wide bottom at such a rate that the inflow keeps the narrow top exactly full; the sands fall on a conveyor belt **9** and are removed.

To introduce wash-water, a transverse perforated chamber **19** is connected to a pressure pipe.

5 typed pages, 4 claims; 1 fol. drg., 3 figs.

3027. 26 Apr. H. Aae, Ville "Ma folie," Strandvej, Aarhus, Denmark, town council secretary.

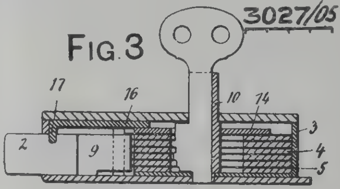
Springless lock; ring tumblers.

Class 77.3.

The bolt **2** is withdrawn and protruded by positive action without the reaction of springs, and the security of tumbler action requiring exact length of key-wards is combined with annular rotating tumblers **4**, of which six are shown in Fig. 3.

The tumblers are flat washers, fitting the circular case **3**, which are separated from frictional contact with their neighbours by thinner washers **5** which are prevented from rotating; each tumbler has a radial slot into which the tail of the bolt enters when retracted, and the rings must be positively turned around by the key to bring these slots into coincident position, when the bolt is withdrawn by the key-block-disc **14**, which engages the forked slider **16–17** by its crank pin **15**, and also by the cam-slot **22** and slider pin **21**.

FIG. 3 3027/05



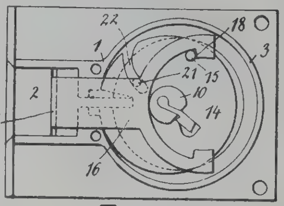


FIG. 1

When the bolt is locked, the several ring-tumblers are left with the slots **8** at diverse angular distance from the coincidence; they are picked up and carried around by the key-wards engaging a notch (on the inner opening of the ring) whose edges are so placed that as the ward revolves in the eccentric key-block, its circle of motion intersects the circle of motion of the ring-tumbler at different places for each ring; as the ring comes to the position of coincidence the engagement ceases, and then the key-block-disc **14** begins to engage the bolt-slider **16**.

The eccentric axis for the key may be either in a key-block **10** with trunnions in the cover-plates, or a pin-key may be guided directly by smaller holes in the cover-plates.

7 typed pages, 3 claims; 1 fol. drg., 5 figs.

3028. 26 Apr. *C.a.P.* 25 Jan., 1906. A. Fischer, 18 Hazlitt-road, Kensington, London, Eng., gentleman.

Talking machines; sound boxes and horn joint.

Class 01.7.

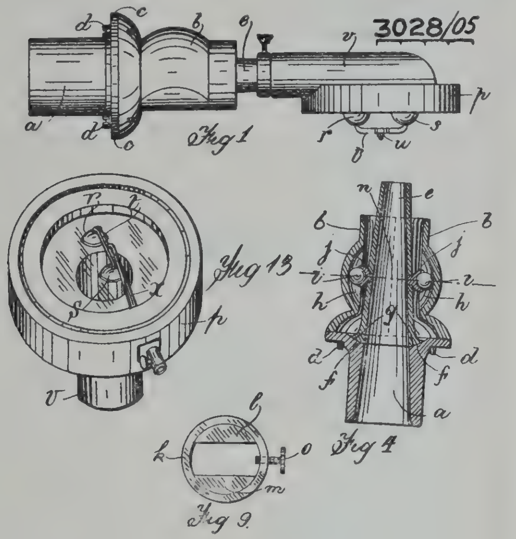
The sound box **p**, Fig. 1, of the reproducer has two domes **r** and **s** attached at about one-third of the diameter from each edge of the diaphragm; these domes are connected by a bridge **t** which carries the stylus **u**.

A duplex modification has two diaphragms in attached sound boxes each with two bridged domes, combined by a second yoke or larger bridge which carries the stylus at the centre of its length.

Fig. 13 shows the sound box adapted to a gramophone.

In Fig. 1 the sound box **p** is connected to the horn by a universal joint shown in section in Fig. 4 ; **a** is the large end to which the trumpet is attached, **b** a casing connected by flanges **c**, **d** ; the interior conical tube **e** has trunnion-seatings **j** with end cups holding balls **i**, which run in circular bottomed grooves **h** in the enlargement **c** on the casing **b**. The large end **g** of the cone **e** sits against a spherical surface on the large tube **a**, thus allowing universal movement in the casing **b** and attached horn.

The collar **k**, Fig. 9, is used on the point of the conical tube **b** when recording, to restrict the movement of the tube **e** to up and down movements only.

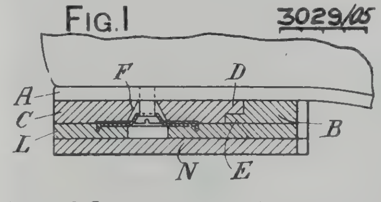


Prov. 5 *typed pages ;* 2 *fols. drgs.,* 16 *figs.*
Comp. 7 *typed pp.,* 8 *claims ;* 2 *fols. drgs.,* 16 *figs.*

3029. 26 Apr. *C.a.P.* 3 Jan., 1906. W. Morrison, 11 Don-street, Newtown, N.S.W., bootmaker.

Renewable leather faced rubber heels. Class 44.3.

The rubber pad **C** is rebated at **D** to fit the leather breast piece **B**, and is recessed to receive a metal fang-washer attached to the leather lift **L**, and by the screw **P** to the boot ; the head of **P** works in a hole in the lift **L** when the pad **C** is compressed ; the wearing surface or top lift **N** is nailed to the lift **L** ; the wearing parts may be easily renewed without affecting the cushion.

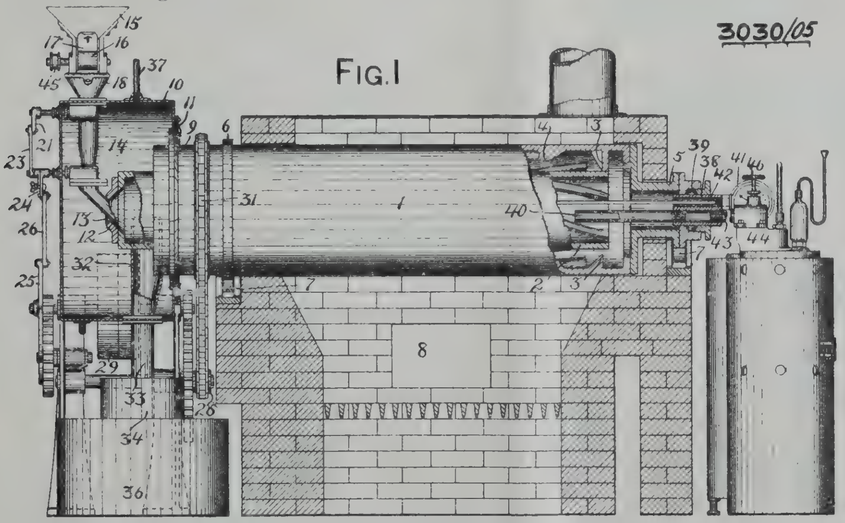


Modifications are shown of different shapes and with two screws **P** ; with vulcanite lifts, the fang-washer or plates may be omitted.

Prov. 3 *typed pages ;* 1 *fol. drg.,* 3 *figs.*
Comp. 5 *typed pages,* 3 *cls. ;* 1 *fol. drg.,* 6 *figs.*

3030. 26 Apr. H. J. Horstmann, 402 East Berry-street, Fort Wayne, Ind., U.S.A., mechanical engineer.

Duplex rotating vapour amalgamation. Classes 10.1 ; 13.7 ; 16.2.



Dry warm pulverized ore is fed to the muffles **1** from the hopper **15**, through a lock chamber **14** having doors alternately operated by cams and links **21** to **26** ; mercury vapour is supplied at the other end by stills **44**, with adjusting valve **46**, through a trunnion pipe **40**.

The rotating muffle is duplex, and both barrels have internal spiral ribs acting as creepers ; the inner barrel is supported centrally in the outer one by arms **3** ; the outer barrel runs on end rollers **7** and is driven by chain gear **28**; the charging and delivery apparatus is enclosed in a hood **10** to prevent escape of mercury.

The ore travels from the feed shoot **13** along the inner barrel and returns by the outer one, and falls into the funnel **32**, leading to the water tank **36** where the ore is quenched. Water is supplied to the drum **34** to condense the vapour.

The amalgam is subsequently separated from the treated ore by usual plate amalgamation.

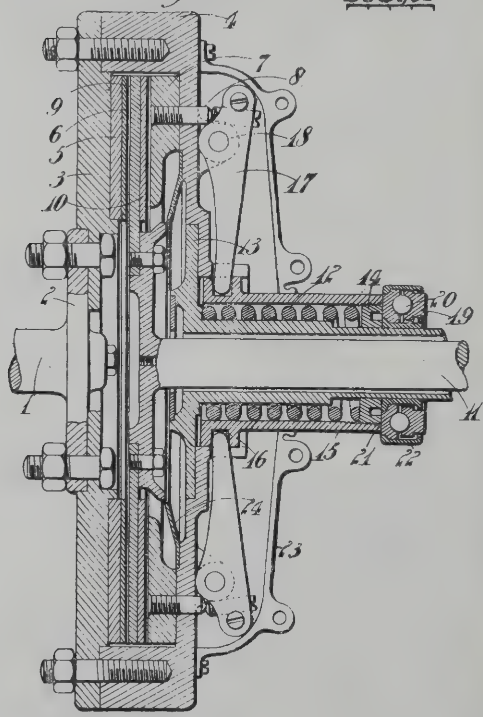
13 *typed pages*, 7 *claims*; 5 *fols. drgs.*, 12 *figs.*

3031. 26 Apr. A. de Dion and G. Bouton, both directors of De Dion Bouton et Cie, 20 Quai National, Puteaux, Seine, France.

Disc-clutches for motor vehicles.
Classes 62.8; 95.9.

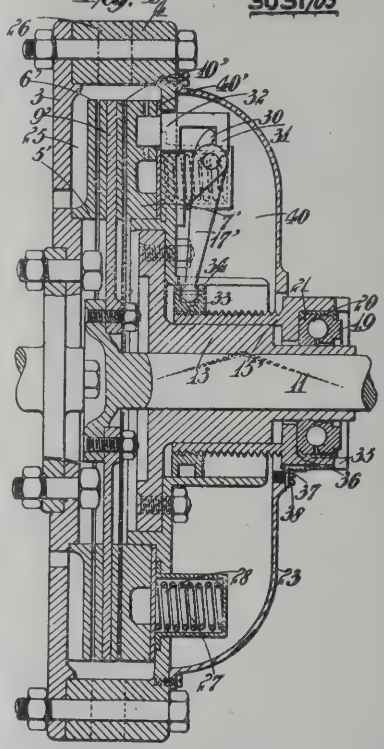
These clutches have large discs boxed inside the fly wheel, and are held in contact by self contained springs, so as to eliminate waste friction during driving; they are released by axial pressure on a ball ring, which is transmitted by levers to the discs in various manners.

Fig1.



In Fig. 1, leather covered steel faces **5**, **7** rotate with the fly-wheel and hold between them a steel disc **9** on the transmission axle **11**; the outer disc **7** is driven by pins **8** projecting through the fly-wheel into contact with the short arms of radial levers **17**, the central long arms of which are pulled outwards by the sleeve **15** and spring **12**; pressure for release is applied to the ball ring **19**.

Fig. 4.



In Fig. 4, ventilation channels **25** are provided to cool the transmission discs when slipping; there are several independent spiral springs **27** in holders **28** between the loose disc **7** and the fly-wheel; the driving studs of the central disc are pulled outwards by the radiating levers **17'**, whose outer ends are engaged by an adjustable ring on the screwed sleeve **15'**; after adjusting the necessary lift by the cogged head **35**, the sleeve **15'** is prevented from slacking-off by a stop **37** on which the cogs **35** slide.

The central disc may be of aluminium, with leathers attached on both sides; if the friction of dry metallic contact is preferred galling and seizing may be prevented by inserting studs of graphite. Some minor variations in detail are also illustrated.

11 *typed pages*, 9 *claims*; 3 *fols. drgs.*, 6 *figs.*

3032. 26 Apr. H. Clauss, Fremont, Sandusky County, Ohio, U.S.A., manufacturer.

Safety razor; details.
Classes 43.7; 76.1.

In safety razors having a stem **1** with a metal trough **2**, Fig 3, holding hinged or removable combs and blade clamps **19**, **21**, the clamps are attached to the handles by nipples **24** on its lower flange **6** which are clipped between the double edges **5**, **24** of the trough **2**; either nipple may be used as a pivot on which the blade and clamps may be turned sideways as in Fig. 1.

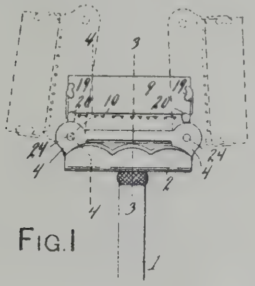


FIG. 1

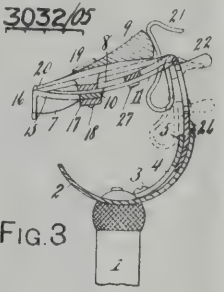


FIG. 3

The blade **9** is wedged between the upper flange **8** (integral with **6**) and lugs **19** which are bent up from a springy bridle **17**; the blade is held at the back by the spring **21** which may be pushed up and down by sliding its handle **22**, as shown in dotted lines Fig. 3.

The comb plate **15** is underneath the flange **8** and carries the bridle **17** by rods **18**; the comb plate and bridle may be adjusted by a pair of set screws of usual type.

9 *typed pages*, 11 *claims*; 2 *fols. drgs.*, 9 *figs.*

3033. 26 Apr. H. L. SULMAN and H. F. KIRKPATRICK-PICARD, both of 44 London Wall, London, Eng., metallurgists, and J. BALLOT, 62 London Wall, London, Eng., merchant.

Ore-floating processes.

Class 12.5.

If powdered ore be blown or dredged over a surface of water the mineral floats and the gangue sinks; this phenomenon may be utilized in several methods.

Dry powdered ore may be fed gently on the surface of running water (preferably acidulated) in spitzkastern, the gangue particles and the mineral is carried away.

Otherwise, wet ore-pulp is distributed or vanners moved so that the water flows to and from the ore, the mineral that has been exposed to air between the pulses floats into one launder and the gangue sinks and is discharged into another launder.

Also, ore-pulp may flow over a shaking table on which the moisture film is ruptured by air jets so that the mineral is picked up on the surface of the water and the gangue remains on the table.

Soap interferes with the action; and it is facilitated by weak sulphuric acid under 1 per cent.

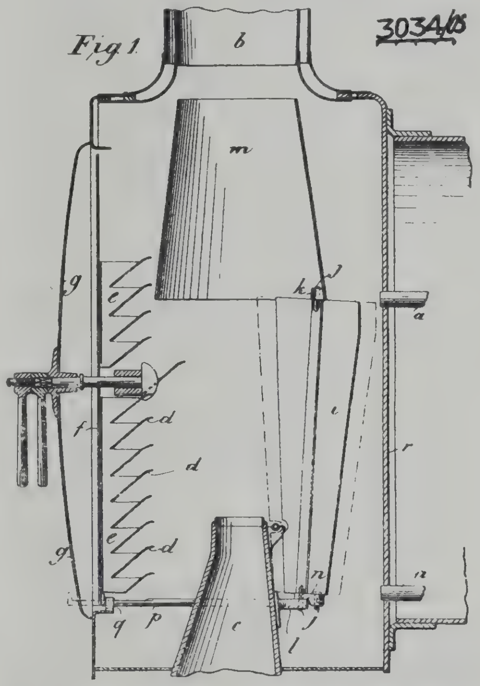
6 *typed pages*, 4 *claims*. *No drawing.*

3034. 26 Apr. J. HOLDEN, Hermon Hill, Wanstead, Essex, Eng., engineer, and E. S. TIDDEMAN, 14 Elgin-road, Seven Kings, Essex, Eng., engineer.

Loco. spark arrester.

Class 17.8.

In the fire-box a deflecting plate **i** is placed at an angle between the tube plate **r** and blast nozzle **c**, so that sparks coming from the boiler tubes are deflected to the side of the blast pipe and strike louvres **d** fixed near the smoke-box door **g**, and fall to the bottom of the box.



The deflecting plate is pivoted vertically on **j**, **j**, and linked by **p** to the smoke-box door, so that on the door being opened the plate turns parallel to the boiler tubes to facilitate cleaning.

In a modification the plate carries louvres on its back surface to direct sparks to the bottom of the fire-box.

10 *typed pages*, 9 *claims*; 3 *fols. drgs.*, 5 *figs.*

3035. 26 Apr. E. PHILLIPS, 533 Collins-street, Melbourne, Vic., patent attorney (*communicatee of* Sophie A. ARMSTRONG, married woman, and H. W. Armstrong, inventor, *act. invs.*, both of Lindsay, Ontario, Canada).

Cattle grids ; rocking bars.
Class 98.8.

Cattle grids, at open level crossings of railways, have the bars alternately high and low, as in Fig. 1, and are supported by being loosely threaded on transoms with spacers **H** with sloped faces so that the bars will rock to one side and cause the feet of trespassing animals to slip.

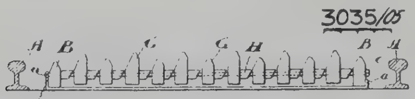


Fig. 2.

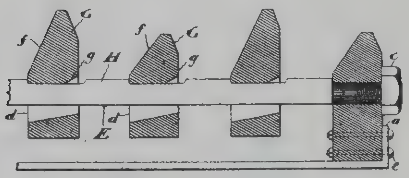


Fig. 3.

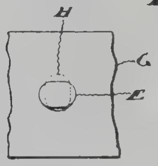


Fig. 4.

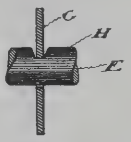


Fig. 5.

In Fig. 3 the bars are threaded on notched transoms to avoid spacers, and the bars are held down by end transom plates.

Figs. 4 and 5 show an arrangement for metal bars threaded on notched transoms.

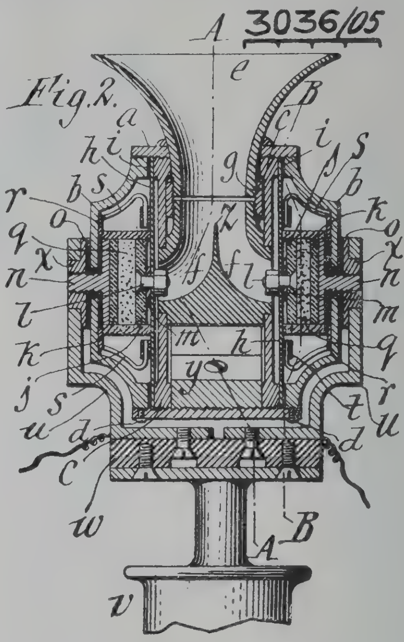
8 *typed pages*, 6 *claims ;* 2 *fols. drgs.*, 6 *figs.*

3036. 26 Apr. H. M. Gail, 63 Richmond-avenue, Buffalo, Erie, New York, U.S.A., mechanical engineer.

Telephone transmitter.
Class 05.7.

A pair of diaphragms **h** are attached at the margins by washers and screwed rings to the central bifurcated tube-block **f** carrying the flared mouth-piece **e** ; each diaphragm carries a centrally placed carbon microphone, also fastened by insulating attachments to the outside trunnions of the case **b**, so that the current passes in series through the microphones from the terminals.

False vibrations in the diaphragms are damped by four rubber-tipped springs **s** attached to washers **r** around the trunnions.

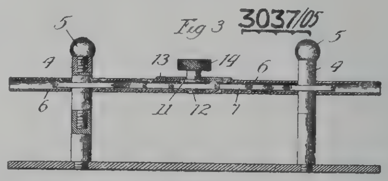


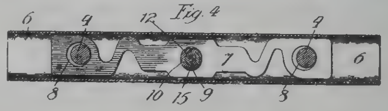
The case swings on the trunnions in the insulated fork **u** to adjust the angle and shake the carbon.

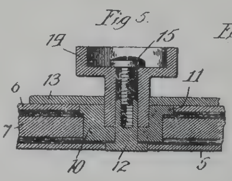
11 *typed pages*, 3 *claims ;* 1 *fol. drg.*, 6 *figs.*

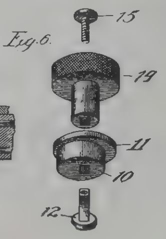
3037. 26 Apr. G. A. Shoemaker, 138 Washington-street, Chicago, Cook, Ill., U.S.A , manufacturer.

Clamp for loose-leaf binders.
Class 48.8.









The loose leaves have circular holes (fitting the posts **4**) with slits to the margin, so that the leaves can be placed on or off sideways without removing the top cover, or removing the knobs **5**.

The upper or sliding cover has a flat tube **6** encased within the binding and drilled to fit the posts; within the tube is a locking bar **7** (also drilled to fit the posts) which may be moved end-wise in the tube by an eccentric **10** with an external milled head **14** to jam the posts against the tube; the locking bar is narrowed and corrugated between the holes to give sufficient elasticity to grip both posts.

8 *typed pages*, 7 *claims*; 2 *fols. drgs.*, 6 *figs.*

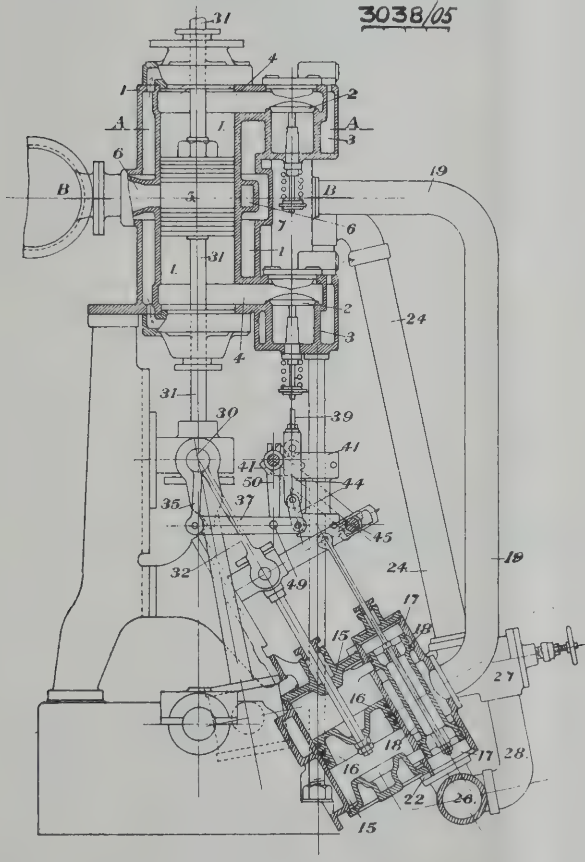
3038. 26 Apr. THE EMPIRE OIL ENGINE SYNDICATE LIMITED, 34 Great St. Helens, London, Eng., manufacturers (*assignees of* J. CLAY, *act. inv.*).

Duplex gas engine; separate air and gas pumps.

Classes 66.2; 66.7; 60.1; 69.4; 92.2.

Fig. 3 shows three duplex engines arranged at 120 degrees phase in marine style; each engine is a complete unit, as in Fig. 1, and can work independently, using a two-stroke cycle; the vertical cylinders **1** have explosion chambers at both ends and a central belt of exhaust ports **6** which are uncovered by the long piston **5** at the ends of both up and down strokes; the air-pump **15** and the smaller gas-pump at the opposite side are driven from the crosshead **30**, and their valves are positively driven by reduced motion levers without rotary transmission.

Fig. 1.



Combustible mixture and air are supplied under pressure to the inlet valve-chests **3** through ports **12**, **9** controlled by piston valves which are linked to the crosshead **30** by levers **37**, &c. The travel of the combustible-mixture supply-valves is regulated by adjusting the position of the fulcra carrying the operating levers which transmit motion from the crosshead **30** to the valve-rods.

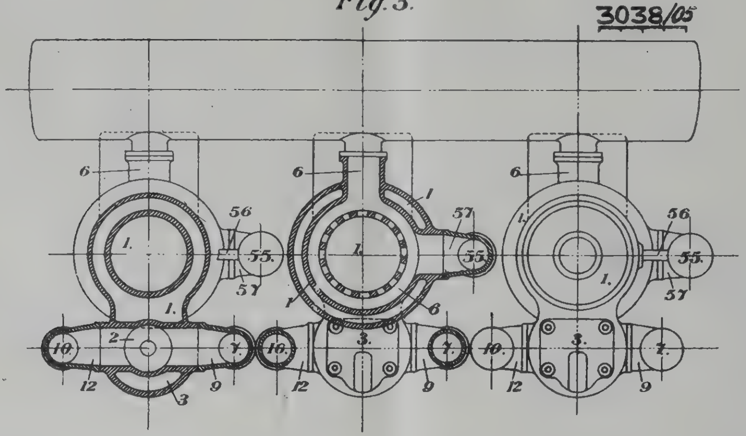
The air and gas pumps supply air and combustible mixture to the valve-chests **3** through pipes **19**, **24** respectively, the distributing valves, one of which is shown at **18**, being operated by an oscillating lever mounted on the shaft **45**. A relief valve **27** returns combustible mixture to the supply pipe **26** in the event of excessive pressure being reached in the pumps.

A scavenging charge of air is admitted to the ends of the cylinders through the inlet valves during the exhaust stroke, and that remaining in the cylinders when the exhaust ports **6** are closed is compressed on the following instroke and used to support combustion. The combustible charge admitted during the compression stroke is formed as a layer behind the compressed air.

For reversing and starting, a long piston valve operated by link motion is arranged at the side of each cylinder. The valve normally closes ports **56**, Fig. 4, opening into the cylinders, but prior to reversing the gas ports **12** are closed, and the cylinder ends are placed successively in communication with a compressed air or combustible fluid supply reservoir (not shown) and the exhaust ports **6** with a passage **57**. The reversing valve is operated by a straight link connected to a pair of eccentrics.

The reversing links are also used for controlling the electrical igniters.

Fig. 3.



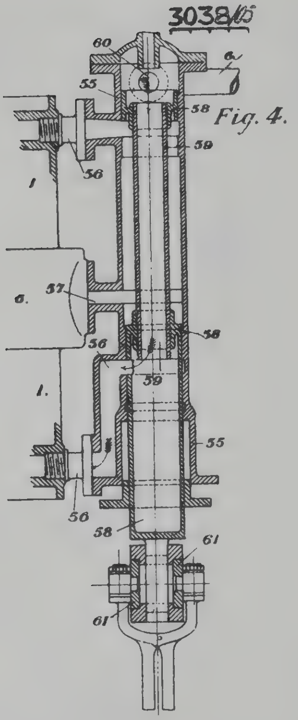


Fig. 4.

10 *typed pages*, 11 *claims*; 5 *fols. drgs.*, 8 *figs.*

3039. 26 Apr. *C.a.P.* 26 Jan., 1906.

C. N. Collison, 483 Collins-street, Melbourne, Vic., patent attorney (*communicatee of* H. R. Angel, *act. inv.*, 28 Grange-road, Ealing, London W., Eng., shipowner).

Ore floating in hot acid.
Class 14.5.

A hand-rocked iron trough, lined with enamel on the inside, is supported on trunnions and is provided with coke fire, steam jacket, or gas burners, which may be removed or adjusted to allow of intermittent cooling during recharging.

The finely ground ore is fed into the trough containing $\frac{1}{2}$ to 1 per cent. solution of H_2SO_4, stirred with wooden stirrers and boiled; the sulphides rise to the surface, and are skimmed off. H_2SO_4 is cautiously added to bring up the percentage to $1\frac{1}{2}$ to 2 per cent., and the mass is rapidly boiled after each addition to dissolve the soft gangue, which is poured off with the solution by rocking the trough, and the precipitated particles containing the precious metals are scraped out.

Prov. 2 *typed pages.*
Comp. 3 *typed pages*, 3 *claims. No drawing.*

3040. 27 Apr. *Comp. lapsed.*

G. G. Turri, Salisbury Building, 150 Queen-street, Melbourne, Vic., patent attorney (*communicatee of* G. H. Gillette, *act. inv.*, 110 West 32nd-street, New York, U.S.A., manufacturer).

Spinning head for bottle capsules.
Classes 57.5; 73.4.

The metallic capsules have a soft packing ring or disc below or above the bead on the bottle neck.

The head or chuck, Fig. 3, may be rotated by any lathe or drill mechanism; there are three beading rollers **27** (on ball bearings) which swing on arms **29** that are normally pressed outward by springs **37**; the arms are pivoted to the block **31**, which slides in the chuck, and is pressed outward by the spring **34**; the bottle neck and capsule is centred by springy fingers on the collar **23**, which does not rotate, and is supported on balls **24**; as the bottle is pushed in, the spring **34** is compressed, the arms **29** move backward in the case, and are pressed inward against the capsule by the cams **35** on the outer case, causing the rollers **27** to spin the capsule edge around and under the bottle bead.

For capsules with packing discs above the bead, the chuck is simplified, and the springy centering fingers are replaced by a solid cup.

Several patterns of beading rollers are illustrated.

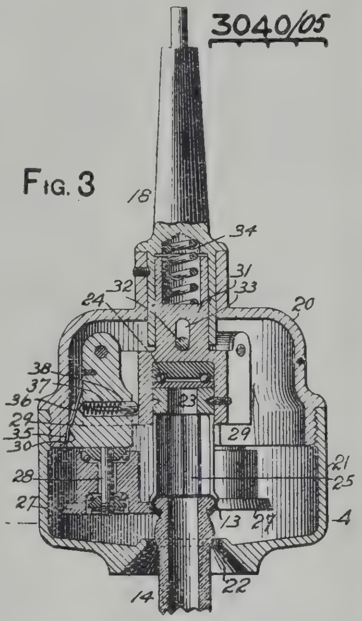
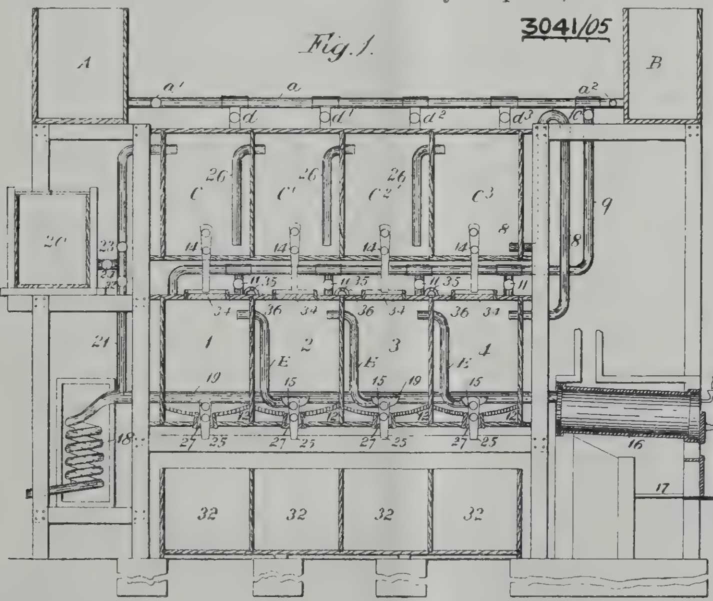


FIG. 3

9 *typed pages*, 4 *claims ;* 1 *fol. drg.*, 12 *figs.*

3041. 27 Apr. G. E. KINGSLEY, King and York streets, Toronto, Ontario, Canada, engineer.



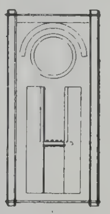


Fig. 2ª

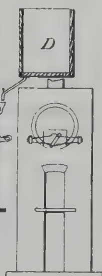


FIG. 2

Leaching sulphides with nitric acid for pigments, &c.

Classes 08.9 ; 14.1 ; 14.7 ; 79.2.

The series of vats lined with enamel, &c., are arranged with pipes for transferring the contents by gravitation or pressure. Nitric acid from **A** is diluted with water from **B** and fed by taps **d** to **d3**, into the upper row of airtight vats **c** to **c3** containing acid of graduated strength ; the middle row **1** to **4** have charging doors **34**, bottom doors for discharging the leached ore into trucks below, and taps for running the liquor into the vats **32** which are in front of the truck passage.

Nitric acid is distilled from sodium nitrate in the retort **16**, the vapour passes the main pipe **19** running through the vats **1** to **4** (and heating them to 80 deg. C.) to the worm **18**.

The nitrous fumes from the reaction in the vats **1** to **4** pass by the tubes **E** to the next vat in succession, keeping the pulp agitated ; excess vapour from **4** passes by pipe **8** to the acid chambers **C** (in reverse order by the pipes **26**) where they are mostly absorbed, and finally by pipes **23** and **21** to the worm **18** ; **20** is a storage reservoir to which great excess of vapour is admitted by the tap **23** when necessary.

The process is used more especially for the production of white lead. The $Pb(NO_3)_2$ formed is precipitated by a mixture of Na_2CO_3 and NaOH, the precipitate being white lead. Other lead salts may be obtained by suitable precipitants, and also mixed zinc and lead pigments. When sulphide ores of copper are treated they are leached with a mixture of salt solution (NaCl) and nitric acid, the copper may be precipitated by scrap iron, and the metallic lead by electrolysis.

The residue from vats **1** to **4** contain much sulphur (sometimes nearly pure) which may be used for sulphuric acid.

10 *typed pages*, 4 *claims ;* 2 *fols. drgs.*, 4 *figs.*

3042. 27 Apr. *Prov. only.*

M. T. Browne, 50 Denbigh-road, Armadale, Vic., stationer.

"An improved scorer or marker for use with the game of bridge."

Class 53.8.

3043. 27 Apr. *C.a.P.* 27 Jan., 1906.

J. H. Cooke, 75 King William-street, Adelaide, S.A., patent attorney.

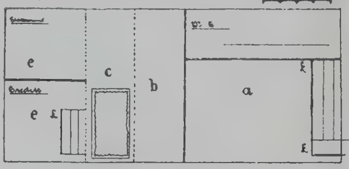
Invoice book with record receipt butts.

Class 54.5.

The illustration shows the arrangement of a page; the dotted lines being perforated.

The invoice part **a** is delivered to the customer, and the items are repeated on **e** for record, the part **b** is a clear space for the adhesive part **c**; **c** is a receipt form which is not torn off until the account is receipted, it is gummed for attachment to the receipted invoice on payment.

FIG. 1 3043/05



During the period of credit the part **c** projects beyond the butts that relate to settled accounts and may be easily turned over for reference without turning all the butts.

Prov. 3 *typed pages.*
Comp. 4 *typed pages,* 2 *claims;* 1 *fol. drg.,* 3 *figs.*

3044. 27 Apr. *Prov. only.*

G. Hampton, Dandenong, Vic., draper.

"Improvements in shirts."

Class 43.3.

3045. 27 Apr. *C.a.P.* 26 Jan., 1906.

A. Curwood, Campbelltown, N.Z., shipwright, J. Harrison, Half-moon Bay, Stewart Island, N.Z., fish merchant, and E. A. Cameron, Spey-street, Invercargill, N.Z., civil engineer.

Sash balances and detents.

Classes 77.1; 78.7.

Instead of the usual ropes and pulleys for lifting sash weights, racks are placed both on the sash weights **10** and at the sides of the sash, which are connected by pinions **9** housed in cases **5**; the cases for the pinions of the upper and lower sashes are placed side by side Fig. 4, and the pinions may be blocked by a slider or detent **14** on the end of a rod **17** linked by bell crank **15** to a finger ring **20** outside the sash.

FIG. 1 3045/05 FIG. 2

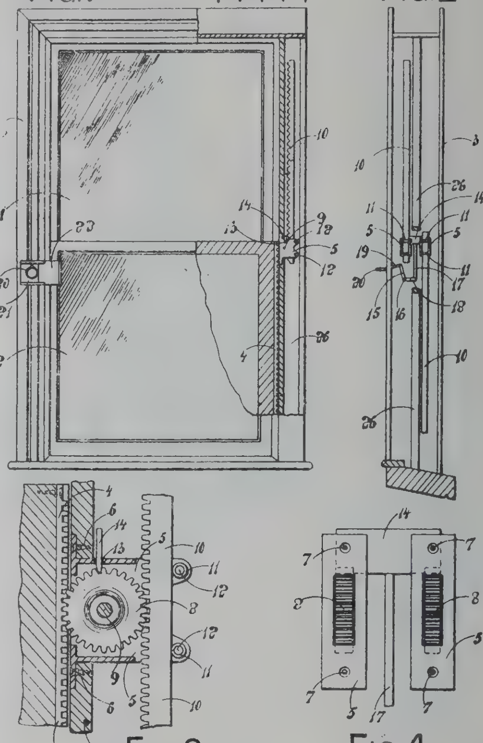


FIG. 3 FIG. 4

Alternatively the detent **14** may be lifted by an eccentric on a cross axle, with a wing head at the end.

Prov. 4 *typed pages.*
Comp. 6 *typed pp.,* 6 *claims;* 2 *fols. drgs.,* 8 *figs.*

3046. 27 Apr. *C.a.P.* 12 Jan., 1906.

W. A. Merralls, San Francisco, Cal., U.S.A.

Multiple stamper boxes.

Classes 10.2; 13.3.

Fig. 1 shows three stamp boxes, divided above, but united on one base plate, having screens on three sides of each stamp; a removable splash board **8** slides in grooves between the opposing screens.

The alternative arrangement, Fig. 3, shows the boxes cast in one piece both at the top and base; the three chambers are divided by partitions in grooves formed in the castings; a fourth screen is placed at the back under each feed mouth, with a sloping passage **11** around and between the anvils to carry the pulp from the back screens to the front.

Prov. 3 *typed pages;* 2 *fols. drgs.,* 5 *figs.*
Comp. 6 *typed pages,* 6 *claims.*

(For drawings see next page.)

FIG.1 3046/05

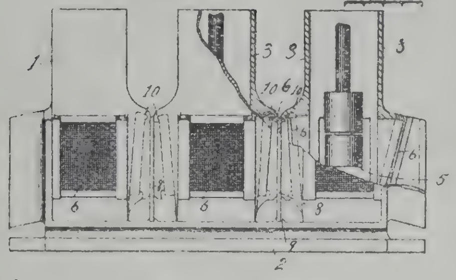
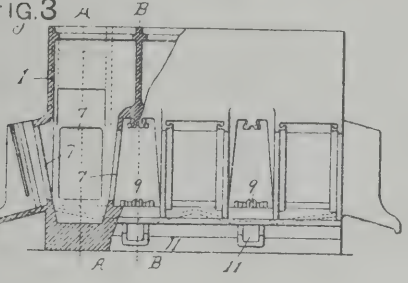


FIG.3



3047. 27 Apr. *C.a.P.* 15 Jan., 1906.

T. W. Fowler, *M.Inst.C.E.*, 408 and 410 Collins-street, Melbourne, Vic.

Automatic flushing tanks with ventilators, &c.

Classes 86.2; 86.4.

Flushing tanks for sewers, &c., are placed at or above ground level to secure greater head for discharge.

A continuous ventilating passage is provided by the tubular valve **3**, or by a lateral branch from the down-pipe **1** below the tank.

The tubular valve **3** is lifted by the bascule **5**, which is filled by the overflow of the main tank through the pipe **8**; the discharge of the bascule **9** is throttled to allow the tank to discharge before the bascule allows the valve to fall.

3047/05

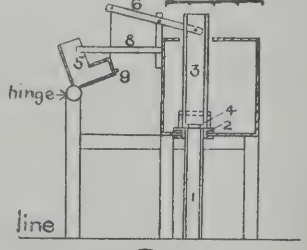


Fig 2

In alternative designs the valve is lifted by a bucket with levers or cords, &c.; the bucket may be outside and filled by a flexible pipe from the tank, or may be hung inside the tank and filled by overflow.

Prov. 10 *MS. pages,* 4 *claims.*
Comp. 15 *MS. pages,* 7 *clms.;* 1 *fol. drg.,* 5 *figs.*

3048. 27 Apr. *Prov. only.*

G. E. A. Kenney, 22 Condell-street, Fitzroy, Vic., saddler.

"Improvement in harness."

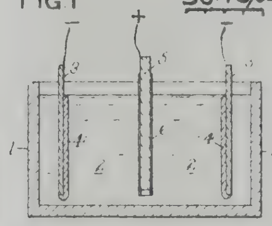
Classes 39.6; 39.7.

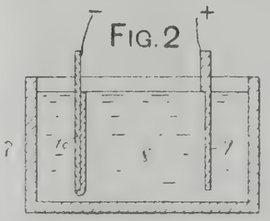
3049. 27 Apr. A. G. Betts, Lansingburgh, Rensselaer, New York, U.S.A., chemist.

Antimony from fluoride electrolyte.

Classes 07.6; 08.5; 08.7.

FIG.1 3049/05





A suitable electrolyte is composed of 8 per cent. SbF_3, 2 per cent. Na_2SO_4, and 4 per cent. H_2SO_4.

The anode may be either of lead or antimony surrounded by a cloth, and should have about half the area of the cathodes. A current density of 10 amperes per square inch with a pressure of 2.5 to 3 volts gives a good deposit from solutions free from interfering metals.

6 *typed pages,* 9 *claims;* 1 *fol. drg.,* 2 *figs.*

3050. 27 Apr. A. G. Betts, Lansingburgh, Rensselaer, New York, U.S.A., chemist.

Ferric-leaching of complex anode slimes.

Classes 07.6; 14.1.

Anode slimes containing lead, copper, arsenic, antimony, and silver, &c., are leached with a hot solution containing 2 per cent. of free sulphuric acid and 4 per cent. of ferric sulphate; the insoluble portion is washed with water in another tank with hydrofluoric acid, after which treatment the slime is sufficiently pure for melting.

The free sulphuric acid is neutralized and oxygen introduced to reduce all of the iron to ferrous sulphate; the solution is passed through the cathode compartments of an electrolytic cell with copper cathodes, whereby copper is removed from the solution, and then through anode compartments with carbon anodes, whereby the ferrous sulphate is largely converted into ferric sulphate.

Modifications are outlined with the same essential features.

9 *typed pages,* 10 *claims.* *No drawing.*

3051. 27 Apr. N. Lombard, 81 Thomas-street, Worcester, Mass., U.S.A., mechanical engineer.

Disengagement water-power governor.

Classes 60.3; 61.3; 62.4; 62.8.

In Fig. 5 power from the hydraulic motor is applied to drive (synchronously) the pulley **28** containing a spring-loaded centrifugal governor **88**; the pulley **28** communicates continuous reverse rotations to the two bevels **25**, Fig. 4, on sleeves connected to the clutch discs **20** and **21**, which may be gripped by either of the toggle-gear brakes **31**, **30** to communicate rotation to the sleeve **13**, having at one end the sprocket gear **92**, and at the other end the gear **15**, which operates the shaft **12**, Fig. 5, by the wheel **16** and hand-clutch **17**.

The shaft **12** positively operates the sluice-gate, and the position of the gate is indicated by the pointer **123**, Fig. 4, which is moved along a scale by the chain gear **118** and screw **119**; by releasing the hand-clutch **17** the gate may be moved by hand-power on the wheel **128**.

The governor **88**, Fig. 5, is coupled indirectly by the sliding axial rod **84** and the complex lever system **77**, **68**, **61** to the valve **50**, which admits pressure water to the clutch piston **45**, Fig. 4, so that with an increase of speed the piston moves to the left and throws the clutch

Fig. 5.

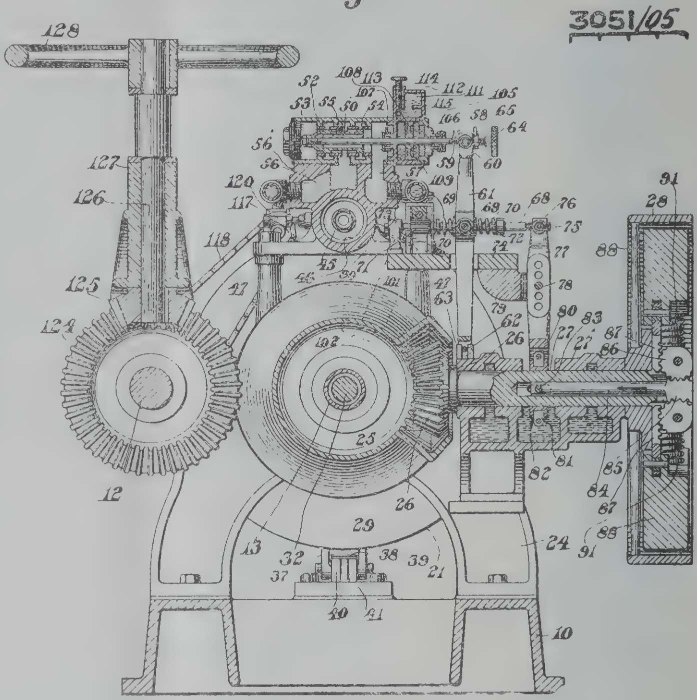
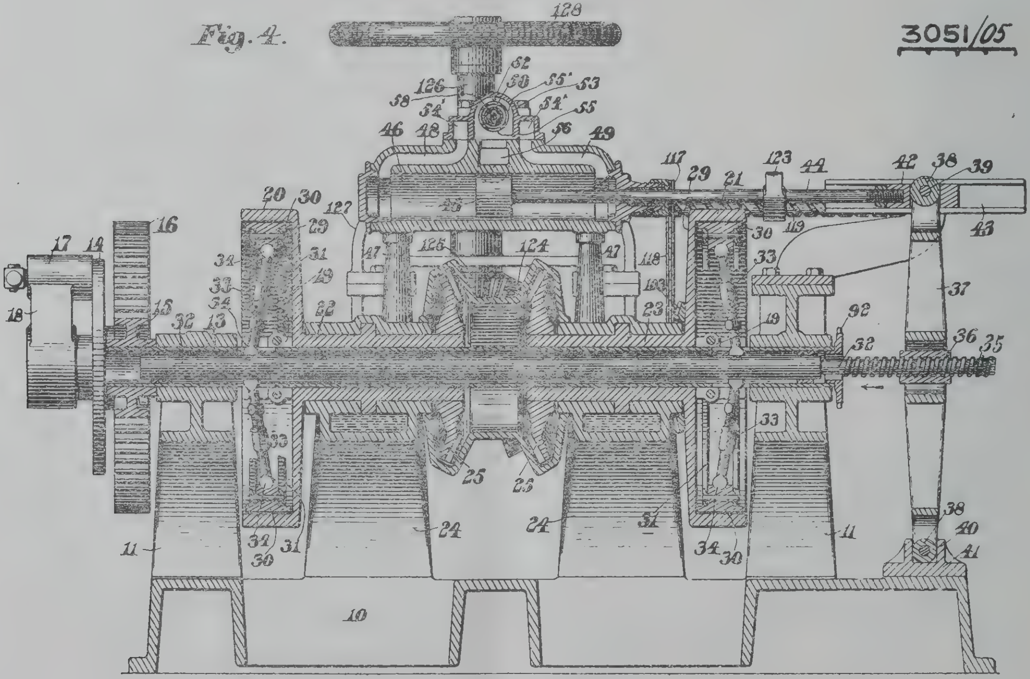


Fig. 4.



21 to grip and close the water gate; simultaneously the rotation of the clutch winds the screw **35** in a direction to slacken the same clutch, and unless the water pressure on **45** is continued the clutch immediately slackens, leaving the gate in its new position.

Another simultaneous action is communicated by the chain gear **32** on the inner shaft **13** to a screw which moves a rack gearing with the pinion **71** on the valve-transmission link **68**, so as to vary its effective length, and to cause the valve **50** to act with greater promptitude at first, but with less afterwards; the rack is restored to mid-position by the action of a disc-and-roller mechanism, the disc being driven by the bevel wheel **103**, Fig. 4 (on the casing of clutch **21**), and the roller being moved from the centre of the disc outward by the screw gear from **32**, in such a manner as to restore the parts to their normal mid-positions and check "hunting."

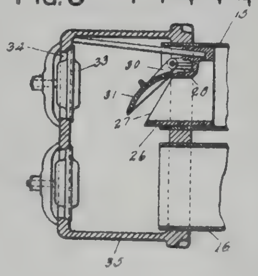
28 *typed pp.*, 27 *claims ; 8 fols. drgs.*, 13 *figs.*

3052. 27 Apr. E. Phillips, 533 Collins-street, Melbourne, Vic., patent attorney (*communicatee of* J. C. Parker, *act. inv.*, S. W. Corner 15th and Chestnut streets, Philadelphia, Penn., U.S.A., mechanical engineer.)

Water tube boilers. Classes 63.4; 74.7.

The steam drum is horizontally divided into water and steam compartments **4**, **5**, connected by flap-valves **9**, **10** in the partition **3**. An opening 2^1 in the partition **2** serves as a vent for any steam collecting in the upper part of the compartment **4**. Sediment collects beneath a V-shaped shield **11** resting on the bottom of the compartment **4**.

Fig. 5 3052/05



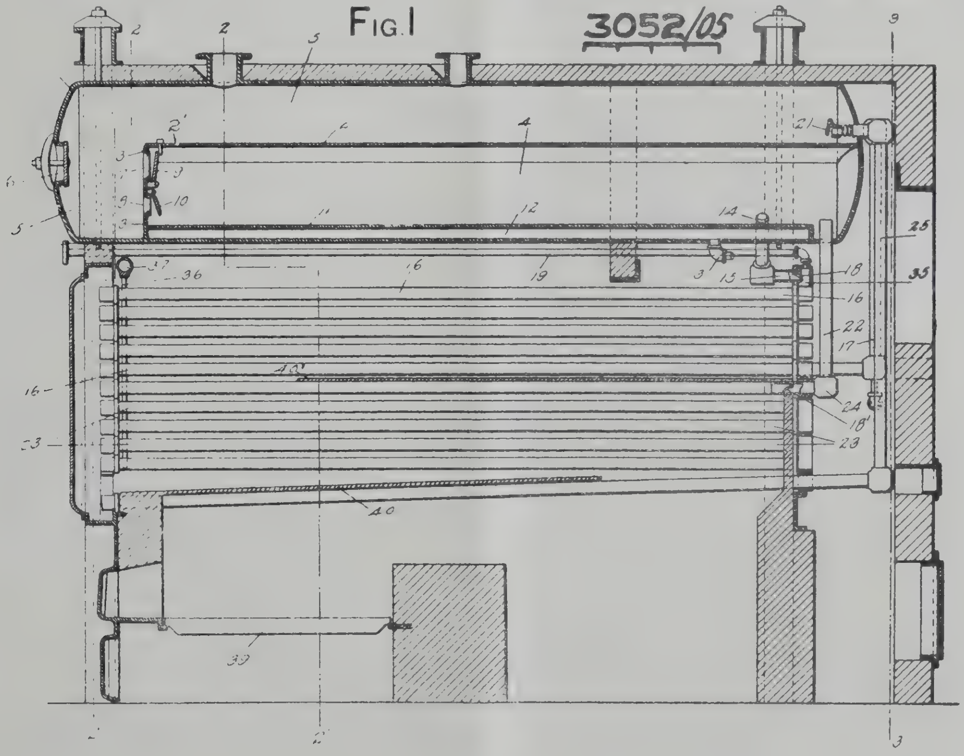
The generating tubes are arranged in two groups **16**, **23**, having separate connexions **14**, **22** with the water spaces, and **17**, **25** with the steam spaces of the drum **1**. The water circulates downward in both groups, check-valves **31**, Fig. 5, being fitted to certain of the tubes.

The feed is supplied to the top junction box **35** of the upper group **16**, and is prevented from passing directly into the drum **1** by a check-valve **18**.

Vertical pipes with steam jets are arranged between the tubes, for blowing off soot.

15 *typed pages*, 29 *claims ; 3 fols. drgs.*, 12 *figs.*

Fig. 1 3052/05



3053. 27 Apr. *Prov. only.*

J. Lindsay, carpenter, and R. Lindsay, engine-driver, both of Dunedin, Otago, N.Z.

"Improved trolley pole for conducting electric current to vehicles."

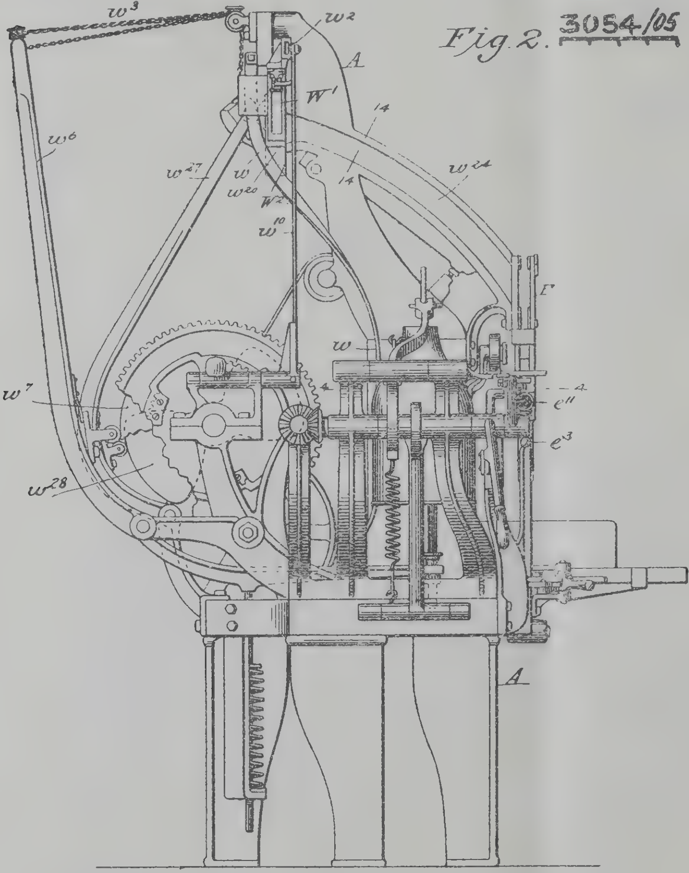
Class 03.4.

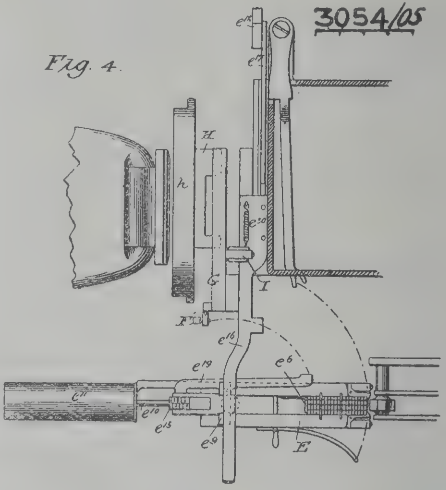
3054. 27 Apr. D. A. Poe, 285 Peel-street, Montreal, Quebec, Canada, mechanical expert.

Linotypes; rotating assembler, &c.
Class 50.5.

The line-transferring and distributing mechanism co-operates with an assembler, which is mounted to rotate through a right angle to the transferring position.

(1) The vertically movable dog **e15**, Figs. 4 and 5 (which co-operates with the transferring bar **e16**, and is mounted on the slide **e9** connected with the resistant **e6**), instead of being held in the depressed position by a latch released by means of a thumb lever, is retained by a horizontal pivoted spring latch **e19** released automatically by contact with the adjustable assembler stop **F1**. The resistant **e6** is rigidly connected to the slide **e9**, instead of a spring being interposed.





(2) The dog **e15**, Fig. 5, instead of being released from the bar **e16** by means of a finger-lever, is released automatically by means of an upright dog **e26**, arranged on the slide **e9** to co-operate with an extended finger on the assembler lever **e3**, when this lever is actuated to unlock the sliding part of the assembler from the receiver **C**. The dog **e26** is connected by a link with the slide **e9** so that it has a sideways movement for release from the extended finger.

(3) The guide for the line resisting and delivering finger **I**, Figs. 4, 5, and 9, instead of being rigid on the bar **e16** is mounted on a horizontal pivot **e29**, and is normally held against a stop by a spring **e30**. Rocking plates **e31**, **e32** for squaring are provided on the lower end ot the finger **I**.

(4) A single elevator **W1**, Fig. 9, receives the *entire line of matrices and space-bands*, and a single turning movement restores the matrices and spacers for presentation to the distributing mechanism. The elevator **W1** is in the form of an open-ended box provided with supporting shoulders, and slides on a twisted guide **W**.

At its upper position the line is pushed from the elevator **W1** into a stationary box **W20**, Fig. 2, containing a toothed bar for receiving the matrices; inside the box are inclined grooves for separating the spacers; the spacers are delivered into a carrier box **W2**, and retained by pawls; the carrier box **W2** is guided by means of rollers or studs in a grooved curved guide **W24**, and travels down to the spacer magazine **F**, into which the spacers fall on release of the pawls by contact with the top of the magazine. A cam-controlled lever **W27** actuates the carrier box.

Fig. 5. 3054/05

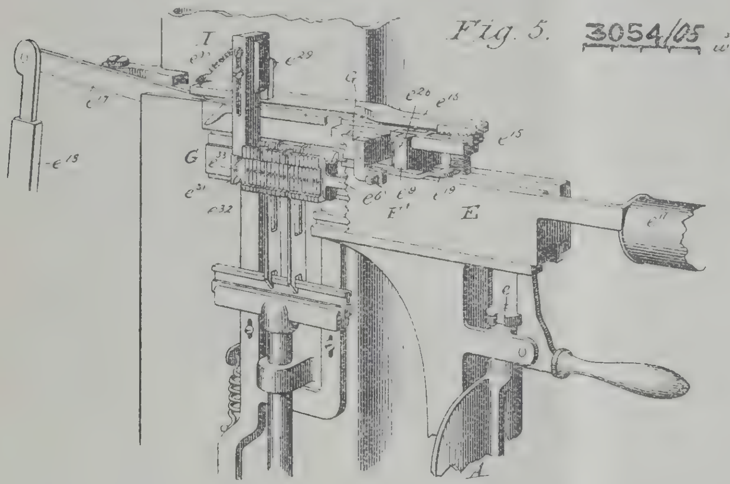
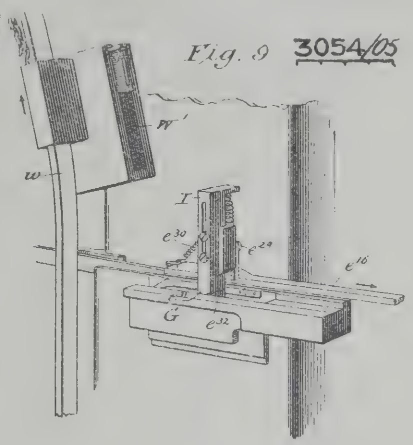


Fig. 9 3054/05



18 *typed pages,* 21 *claims;* 6 *fols. drgs.,* 15 *figs.*

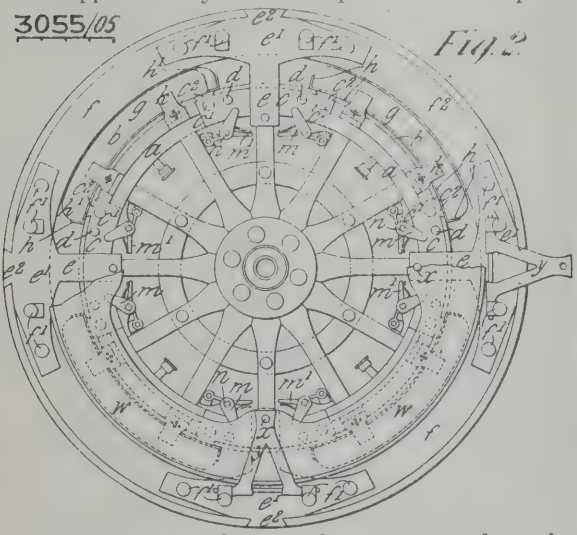
3055. 27 Apr. G. S. Ogilvie, The Lodge, Woodbridge, Suffolk, Eng., barrister-at-law.

Elastic wheels.

Classes 97.6; 97.81.

In elastic wheels having external and internal rims separated by elastic members, supplementary buffer-stops are interposed between the driving elements to reduce the shock of impact of stops coming into engagement, the clearance between buffer-stops and driving-stops being equal to the radial freedom between the two wheel members.

3055/05 *Fig. 2.*



Segmental rubber, pneumatic, or spring cushions **g**, Fig. 2, are carried by shoes **h**, free to rotate on the felloe **a**, and are surmounted by a rim **f**, the circumferential movement of which is limited by arms **e** coming into engagement with stops **d**. The supplementary stops consist of arms **m** carried at each end of transverse pins **n** to which are also fixed other arms **m**¹ pressed inward by leaf springs **p**.

Dust plates **w** are secured to the rim by studs **x** and springs **y**.

In modification the felloe stops **d** slide in slots and are normally held against the inner ends by helical springs, which may be replaced by india-rubber or pneumatic cushions.

8 *typed pages,* 4 *claims;* 3 *fols. drgs.* 12 *figs.*

3056. 27 Apr. P. T. Dodge, Tribune Building, New York, U.S.A., lawyer.

Linotype magazines.

Class 50.5.

The arms **A** of the main frame of Mergenthaler machines are placed wider apart than usual to allow the magazine **B** to be drawn forward between them, and removed from the front of the machine.

A roller **K** or the like carried by the front part of the main frame supports the magazine during its removal. The base-frame **I** of the magazine is fixed to the main frame instead of to the magazine, and the latter is seated loosely thereon.

The escapement devices **G** may be secured to the magazine, as in Fig. 1; or may be mounted in a channelled support fixed to the main frame. If the escapements are attached to the magazine, the side-plates of the latter may be extended downward as at **b** to prevent the escapements from striking other parts. When the escapements are not carried by the magazine, the matrices may be retained in their channels by means of a bar passed through the magazine from side to side between the upper and lower lugs of the lowest matrices.

The throat plate **E** for dropping the matrices from the distributor to the magazine may be hinged to the frame **I**, or to the magazine, or attached to the main frame.

3056/05

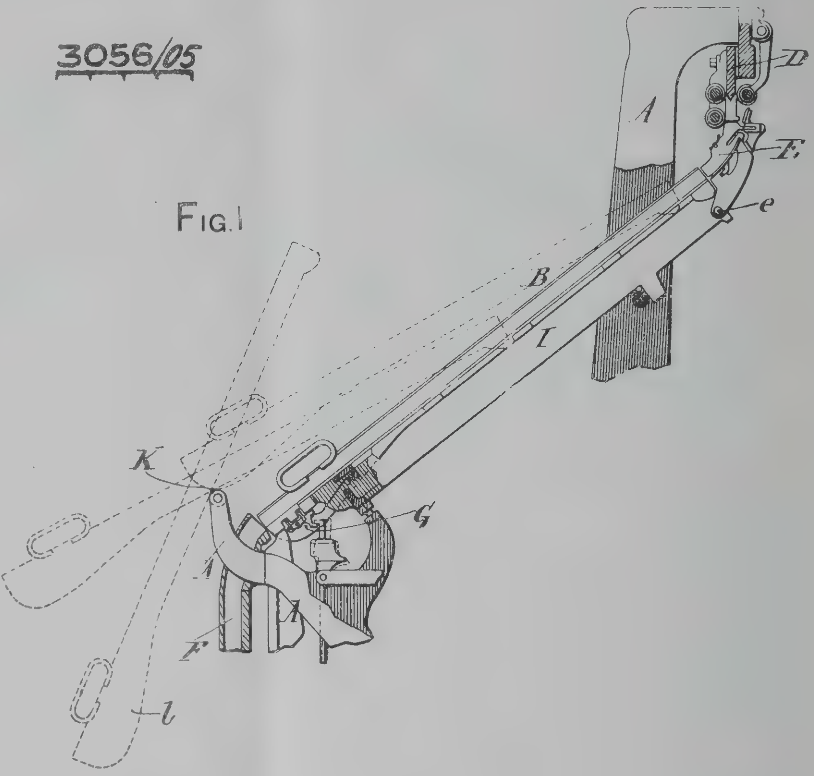


FIG. 1

8 typed pages, 7 claims; 2 fols. drgs., 5 figs.

3057. 27 Apr. A. W. SULLIVAN, 4575 Lake-avenue, Chicago, Cook, Ill., U.S.A., engineer, and W. RENSHAW, 4421 Ellis-avenue, Chicago, Cook, Ill., U.S.A., engineer.

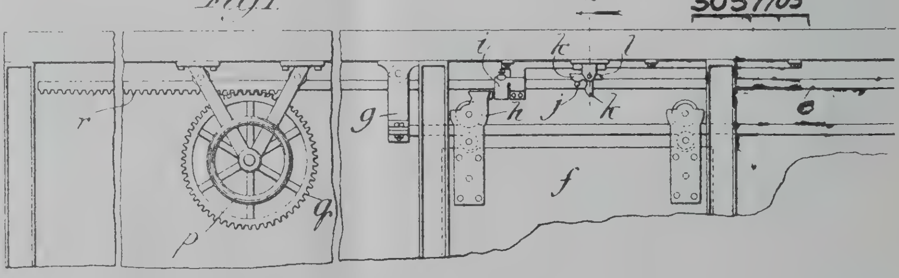
Train "door-open" indicator.

Classes 96.2 ; 99.6.

An electric bell on the engine or motor rings continuously when any door on either side of a train provided with side opening doors is opened, and only stops when every door is shut.

A diagram of the electric circuit arrangements throughout a train shows a bell, a hand-switch, and a battery on the engine, with wires on each side of the train connected by suitable couplings through all the carriages.

Fig. 1. 3057/05



The opening of a door causes a projecting piece **h**, Fig. 1, on the top of the door to engage a projection **i** on a horizontal sliding bar **e**, running along the top of each side of each carriage.

The movement of the bar **e** causes a pin **j** to engage a pivoted tail-piece **k** on the switch, pushing a metal contact-piece **l** between the normally-closed contacts, and thus closing circuit of the bell on the engine.

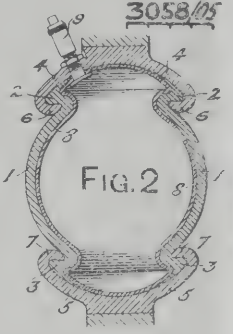
One or more of the doors may be closed without operating the sliding bar **e** to restore it to its original position, but the bar may be restored by operating a hand-wheel **p** to actuate a rack **r** by a wheel **q**, and so close all the doors simultaneously, when the bell stops ringing.

10 *typed pages*, 4 *claims*; 2 *fols. drgs.*, 7 *figs.*

3058. 27 Apr. L. Harris, 169 New Bond-street, London, Eng., director.

Pneumatic bumpers for vehicle springs.

Class 93.3.



Pneumatic cushions are fitted between the body and underframe of a vehicle, or between the upper and lower bows of plate springs.

The cushion has a casing **1** of flexible and inextensible material, such as rubber and fabric, with flanges **3** held under the lips **6** of metallic cupped holders **4**.

An inner air bag **8** and an inflating valve **9** may be provided. The air bag can be removed for repairs without dismounting the holders.

6 *typed pages*, 3 *claims*; 1 *fol. drg.*, 3 *figs.*

3059. 27 Apr. G. H. Oatway and C. E. May, managing director and director respectively of The May-Oatway Fire Appliances Ltd., 92 and 94 Paul-street, London, Eng.

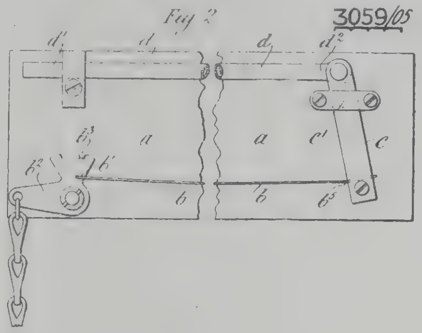
Thermostat fire-alarm; testing.

Classes 88.2; 99.7.

A circuit is closed by the sag of a wire due to heat expansion, following G.B. 23,018/*00*, and 5984/*01*.

A bar, tube, or strained wire **d** (or a cord of low expansion rate) is fixed to the frame **a** at $\mathbf{d}^1$ and pivoted to the short arm of a lever **c** at $\mathbf{d}^2$. To the long arm of the lever **c** is attached a wire **b**, which is fixed at the other end to a pivoted lever $\mathbf{b}^2$, kept in position against a stop $\mathbf{b}^3$ by a weight hanging from a chain, the apparatus being tested by raising the weight. The expansion of the tube **d** increases the sag of the wire, and the circuit is closed, preferably by means of a contact attached to the middle of the wire by fusible metal as described in the prior Specifications.

The frame acts as a compensator during a slow rise of temperature by expanding approximately equally with the other parts.



4 *MS. pages*, 2 *claims*; 1 *fol. drg.*, 2 *figs.*

3060. 27 Apr. A. S. Patterson, 570 to 576 Bourke-street, Melbourne, Vic., general

Fig. 1

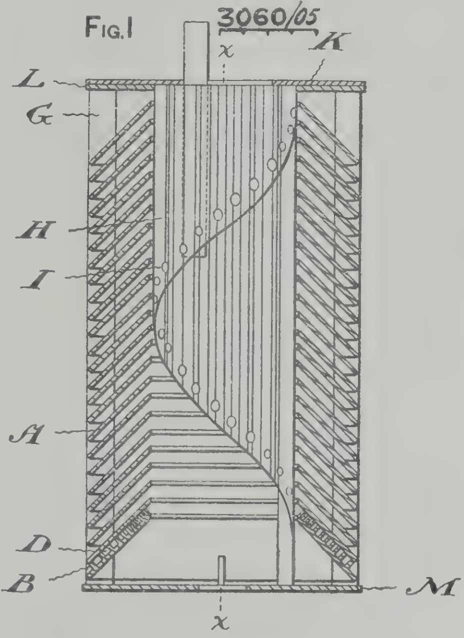
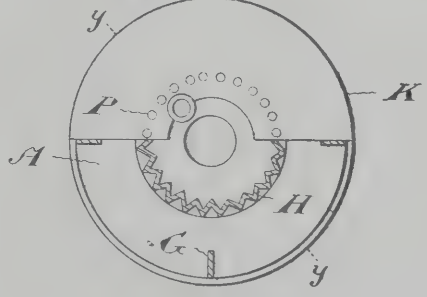


Fig. 2



manager for Massey-Harris Co. Ltd. (*communicatee of* MASSEY-HARRIS COMPANY LIMITED, 915 King-street west, Toronto, York, Ontario, Canada, manufacturers, *assignees of* W. W. MARSH, and C. H. HACKETT, *act. inrs.*, both of Waterloo, Iowa, U.S.A.).

Distributing troughs in creamers.
Class 36.6.

Conical separating plates **A** forming the liner of a drum of a centrifugal separator are provided with helical corrugations **B**; the upper edges of the cones may be undulated; each plate rests upon the one below it, so that the ridges, which may be disposed on either the upper or under sides of the plates, form the sides of enclosed helical passages.

For equalizing the distribution a corrugated metal sheet **H** is cut helically at its lower end, folded as a cylinder, and attached at its upper part to the drum top **K**; the corrugations in the sheet **H** form a series of parallel vertical troughs, from which the liquid, supplied through holes at the top, pass by apertures **I** to each of the spaces between the plates of the liner.

In modifications the sheet **H** may be replaced by a series of detached vertical or spiral troughs provided with apertures, which may increase in diameter towards the bottom of the troughs.

9 *typed pages*, 12 *claims*; 3 *fols. drgs.*, 7 *figs.*

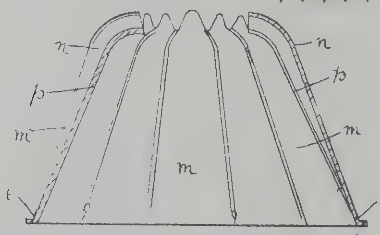
3061. 27 Apr. P. H. WATTS, Long-street, Durster, Gloucestershire, Eng., dairy engineer.

Corrugated cones for centrifugal creamers, &c.
Class 36.6.

Vertically corrugated conical pieces are used in the drums of centrifugal liquid separators to facilitate the separation.

The corrugations shown in Fig. 4 are deepest and steepest at the tops, and almost disappear at the bottom of the cones; they may have perforations near the apex, and distance studs around the base; the corrugations may be straight or spiral.

FIG 4 3061/05



The cones may be straight or partly curved, as Fig. 4, and are used with the usual central tube and adjustable outlets of suitable style.

4 *typed pages*, 2 *claims*; 2 *fols. drgs.*, 6 *figs.*

3062. 27 Apr. AMERICAN METAL EXTRACTION Co., 304 Templeton Building, Salt Lake City, Utah, U.S.A., metallurgical company (*assignees of* F. LAIST, *act. inv.*, Anaconda, Montana, U.S.A., chemist).

Cyclic wet treatment for copper ores.
Classes 08.1; 08.2; 14.5.

The crushed ore is leached with sulphuric acid, ammonia or any suitable solvent; if carbonates are present the CO_2 is collected; the solution is decanted or filtered and treated with H_2S; the precipitated CuS is separated and smelted; the SO_2 is collected and used in the cycle, the solvent liquor being regenerated.

The CO_2 is used to liberate H_2S from calcium-sulphide in the presence of water; the precipitated calcium-carbonate is also saved and treated with the sulphur-dioxide to produce calcium-sulphite and more CO_2; the calcium-sulphite is treated with reducing gases to regenerate the sulphide.

Thus the treatment of the copper after solution requires only the addition of small quantities of re-agents to replace waste.

6 *typed pages*, 4 *claims*. *No drawing.*

3063. 27 Apr. *C.a.P.* 9 Jan., 1906. *Lapsed.*

C. A. BENBOW, 48 College-street, Hyde Park, Sydney, N.S.W., dentist.

Topping and loading sugar cane.
Classes 33.1; 59.6.

This machine attends the cutting machine described in 2237/04, which has previously laid the cane down with the heads in one direction; its purpose is to top and load the cane into a waggon.

A wheeled frame is drawn by two horses who walk between the rows of previously cut cane; an upper frame (partly protected by a roof) has a table **A1** which carries four parallel rake conveyors **C**; the cane is picked up by hand and laid across the conveyors, which carry it past the circular saw **A**; the tops are cut off and forced into a box by a plunger operated by a mangle-rack **P**; a petrol or other motor on the car drives the saw and conveyors, &c.

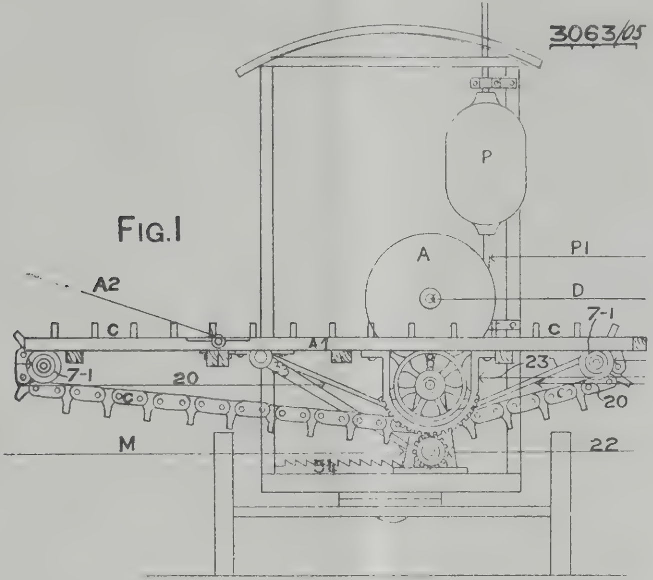


Fig.1

The conveyor platform **A1** rocks on an axis **8**, and may be tilted by the pinion **22** and semi-circle rack, so as to place the delivery end high enough to drop the trimmed cane on an attendant waggon; the platform is scotched at the desired angle by struts **33** which are footed on the rack **54**.

Prov. 7 *MS. pages.*

Comp. 7 *MS. pp.*, 1 *cl.*; 18 *fols. drgs.*, 10 *figs.*

3064. 27 Apr. *C.a.P.* 21 Dec.

C. N. Collison, 483 Collins-street, Melbourne, Vic., patent attorney (*communicatee of* P. E. Dolittle, *act. inv.*, 180 Sherbourne-street, Toronto, Ontario, Canada, physician).

Changeable pneumatic tyres.
Class 97.83.

This pneumatic tyre is usable when deflated, and is so attached that a fully inflated spare tyre may be connected to the wheel in exchange for the leaky one.

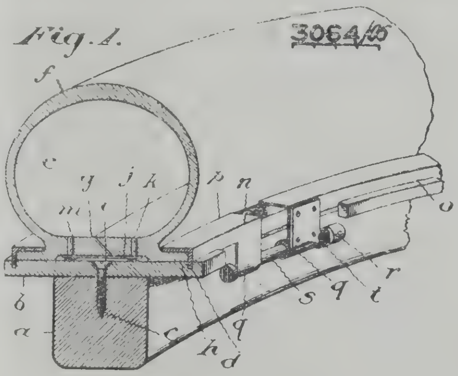
In Fig. 1 the internal air bag is not shown; the tyre **e** has flanges **p** by which it is clamped on the flat rim **h** by two clip-rings **n** of L-section, which set in rim grooves **d**, and are tightened by the bolt **s** with the capstan-head **r**.

When the air tube has become leaky, the tyre may be opened circumferentially at the joint **g** and a new inner tube inserted; the joint **g** is closed by metal latches **j** at intervals which have hooks at one side and studs at the other.

The tyre is made sufficiently thick to be run deflated until it is convenient to change to the spare tyre which is carried ready blown up.

A modification is shown (for use when it is not desired to carry a spare tyre) in which a loose base is used and the latches are omitted.

Fig. 1.



Prov. 3 *typed pages.*

Comp. 9 *typed pages*, 4 *claims*; 1 *fol. drg.*, 4 *figs.*

3065. 27 Apr. *C.a.P.* 27 July.

G. H. Hannington, *act. inv.*, Mary-street, Gympie, Qld., watchmaker, and W. J. Bell, *assignee*, Pine-street, Gympie, Qld., accountant

Kerosene pump and siphon.

Class 22.4.

3065/05

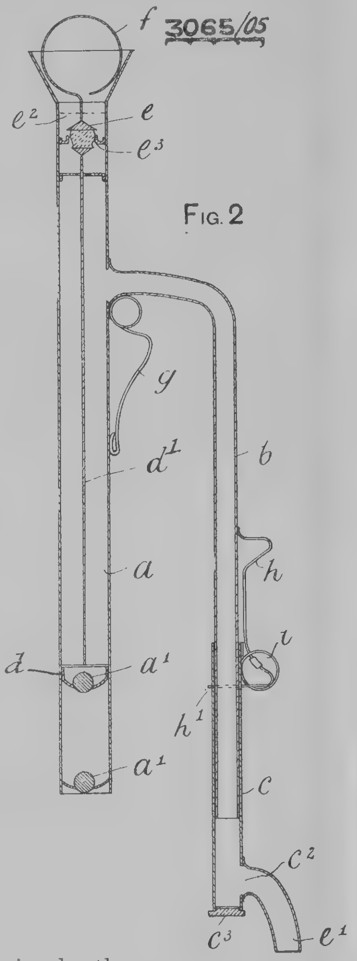


FIG. 2

A kerosene supply pump **a** has the usual spring **g** to steady it in the tin, and a siphon leg **b** connected to the spout; the top of the siphon is made air tight by the rubber plug **e** when the pump rod is down.

The long leg **b** has a telescopic extension **c** (with a blind end **c**³) which may be lifted up to form a liquid seal for the lower end, when the part **c** is raised after filling a lamp; the wire **i** limits the motion of **c**; the siphon may thus be repeatedly used without needing re-charging by the pump.

4 *typed pages*, 4 *claims* ; 1 *fol. drg.*, 2 *figs.*

3066. 27 Apr. *Prov. only.*

W. J. Farley, importer, R. W. Thomson, electrical engineer, and H. A. M. Martin, electrical engineer, all of 369 Wellington-street, Perth, W.A.

"Mechanical apparatus for automatically closing, locking, and unlocking the doors of railway carriages."

Classes 77.1; 96.2.

3067. 28 Apr. *Prov. only.*

F. Walsh, 23 Elizabeth-street, Sydney, N.S.W., patent attorney (*communicatee of* E. S. Jones, *act. inv.*, 56 Carter-lane, London, Eng., gummed paper maker).

"Improvements relating to the treatment of coated paper."

Classes 48.3; 79.4.

3068. 28 Apr. *Prov. only.*

R. Sparrow, Barrack-street, Perth, W.A., patent attorney (*communicatee of* W. H. Trewartha-James, *act. inv.*, Finsbury House, Blomfield-street, London E.C., Eng., consulting engineer.

"Improvements relating to tube mills."

Classes 10.1; 10.3.

3069. 28 Apr. *C.a.P.* 16 Oct.

G. T. Macfarlane, 139 Queen-street, Woollahra, N.S.W., retired sub-lieutenant Royal Indian Marine.

Ships' derricks and winches.

Classes 59.1; 60.8; 92.4.

To reduce the number of men to operate cargo hoisting the derrick-boom **14**, Fig. 1, has universal ball bearings at the thrust foot (as Fig. 5), and its head **34**, instead of being guyed directly from the mast head, is attached to a standing-gaff **60** which is guyed by **66** to have a definite list to the wharf side.

The hoisting winch, Fig. 9, has an auxiliary frame **48** with supplementary engines, worm gear **47**, and a drum **49** (transverse to the main winch **51**) which operates the swaying-guy **68**; all the engine levers are arranged for the convenience of a single winchman.

Alternatively, a pair of independent winches are illustrated; they are placed close together with their drums arranged transversly and the hand-levers grouped.

Prov. 4 *typed pages.*
Comp. 10 *typed pp.*, 10 *cls.*; 4 *fols. drgs.*, 12 *figs.*

(For drawings see next page.)

3070. 28 Apr. *C.a.P.* 26 Jan., 1906.

Annie J. Buckland, Kiatoa, Waikouaiti, Otago, N.Z., married woman.

Teats, &c., for calf-feeding.

Class 37.1.

Perforated teats **7** for feeding calves have bulbs **8** and collars **9**, with narrow necks which fit into slotted holes **5** in the edge of a bucket, Fig. 5, or trough, Fig. 2; a suction tube

3069/05

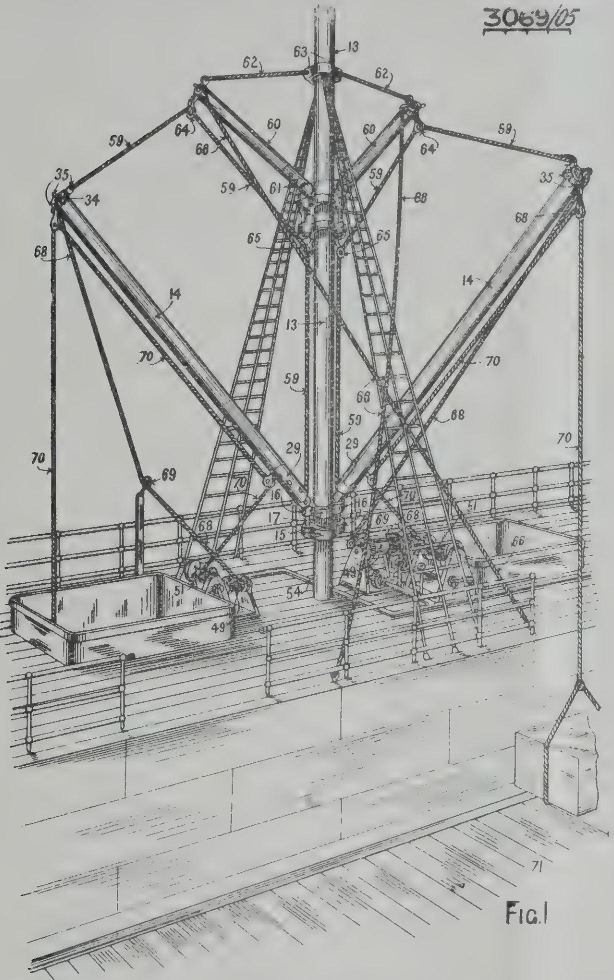


FIG. 1

FIG 9 3069/05

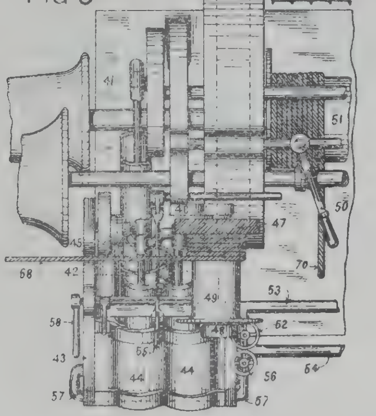
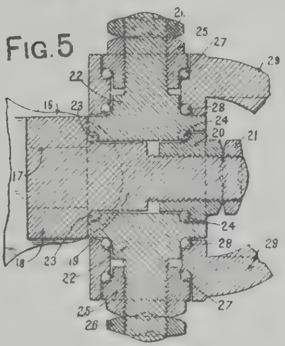


FIG. 5



(**3070**—*continued from previous page.*)

12 passes to the bottom of the vessel.

When several teats are fixed in the edge of a trough, a bar **13** passed through holes in the ends of the trough holds the teats in position; the trough may have hooks **3** for hanging on a fence, and a bow handle **4**.

FIG. 2 3070/05

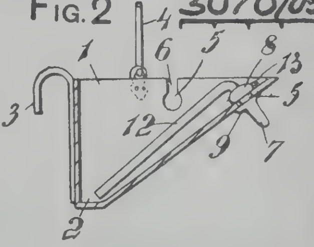
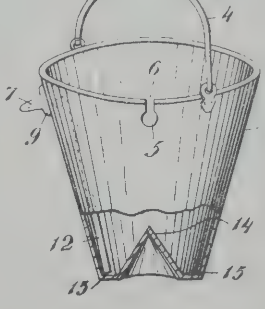


FIG. 5 3070/05



The bucket may have a raised conical bottom **14** to reduce the bottom area and prevent waste of milk.

Prov. 2 *typed pages.*
Comp. 4 *typed pp.,* 3 *claims;* 1 *fol. dry.,* 5 *figs.*

3071. 28 Apr. D. DONALD, Masterton, Wellington, N.Z., machinery importer.

Wire strainer; lever and dogs.

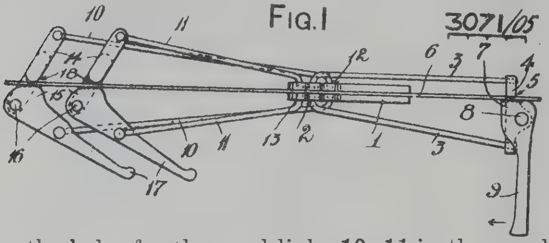
Class 58.3.

To facilitate the fixing and removal of lever wire-strainers, following Vic. 16,370/99, loosely pivoted cams or gripper dogs, with handles **9, 17** are used.

The pair of pawl-dogs **16** are linked to the lever **1**, by the bent wires **10, 11**, the elasticity of which closes the jaws **15, 18** gently on the wire, allowing them to slip on the back stroke, yet grip at the pull.

The fixed dog **8** is linked by a similar bent wire **3** attached to the crossbar **4**; the wire **3** is passed through a hole in the lever **1** between the holes for the pawl links **10**, **11** in the usual manner. Handles **9** and **17** enable the dogs to be readily released.

FIG. I 3071/05



5 *typed pages*, 3 *claims*; 1 *fol. drg.*, 4 *figs.*

3072. 29 Apr. *Comp. lapsed.*

E. J. Haggerbaum, *act. inv.*, 156 King-street, Sydney, N.S.W., optician, and A. J. Whitehouse, *assignee*, 395 Kent-street, Sydney, N.S.W., merchant.

"Improvements in eye glasses."

Classes 00.4; 87.6.

3073. 29 Apr. *Prov. only.*

W. Frazer, 325 Latrobe-street, Melbourne, Vic., bricklayer.

"Self acting air forced draught of ventilators of churches, schools, halls, and houses, and the prevention of smoky chimneys and the like."

Classes 81.6; 90.9.

3074. 29 Apr. *Prov. only.*

C. Smith, 415 Church-street, Richmond, Vic., ivory turner.

"An improved parlour game."

Class 53.7.

3075. 29 Apr. W. A. Richards, contractor, and C. B. Redrup, motor mechanic, both of 27 Chancery-lane, London, Eng.

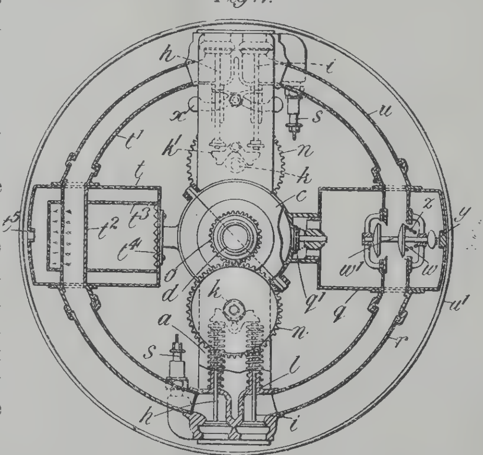
Rotating-cylinder gas engine.

Classes 61.2; 64.8; 66.2; 66.5; 95.3.

Figs. 1 and 3 show a four-stroke-cycle rotary engine, having two cylinders on one diameter, and a compression chamber **q** balancing a silencer **t** on another diameter, the whole being connected by tubular frames **r**, **t**^{1}, **u**, which rotates on a fixed tubular crank axle, and drives a motor-cycle, &c., by a band pulley **v** fixed outside the frame; to facilitate the cooling a casing **u**^{1}, with air openings, encloses the whole motor.

The pair of cylinders are jointed across the enclosed crank chamber **c**, into which the explosive charge is drawn through the hollow crank shaft **p**, and is compressed by the pistons on their respective in-strokes. The compressed charges are forced into the reservoir **q** through the non-return valve **q**^{1}, and enter the cylinders **a**, **b** through the curved pipes **u**, **r**; an extra valve **w**^{1}, across the pipes **u**, **r**, is normally opened by the spring **z**, but is closed at excessive speeds by the centrifugal load **y**, to prevent racing.

Fig. 1.



3075/05

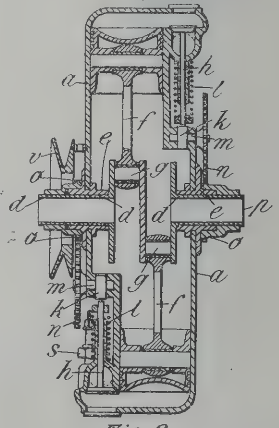


Fig. 3.

The inlet and exhaust valves are opened by the cam **k** on the half-speed gearing in the ordinary way; and they are assisted in closing at high speeds by the centrifugal action of weighted levers **x**. The sparkers **s** make contact with high tension strips.

The exhaust silencer **t** has a double case, the internal tube **t**^{3} communicating with the outer one by a serrated edge **t**^{4}; **t**^{5} is the final outlet.

7 *typed pages*, 5 *claims*; 1 *fol. drg.*, 4 *figs.*

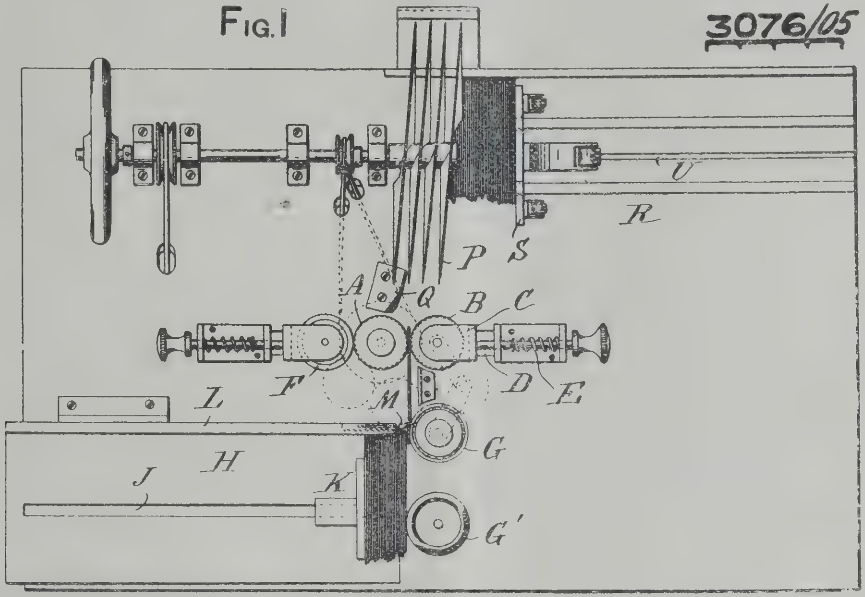
3076. 29 Apr. N. A. Krag, *act. inv.*, Prinsens gade 3B, Christiania, Norway (*assignee of* G. A. Hansen, *act. inv.*, Prinsens gade 3B, Christiania, Norway).

Postmarking letters.
Class 54.3.

In the postmarking, cancelling, or franking machine shown in plan in Fig. 1, the letters slide down an inclined shoot **H** under the action of a weight **K**, and rest against the idle roller **G1**; a rubber covered roller **G** feeds the letters one at a time between a revolving cancelling and dating roller **A** and an impression roller **B**; the surface of **A** consists of a number of parallel peripheral ribs.

The impression roller **B** and an inking-roller **F** are pressed against the roller **A** by a spring **E**, &c.; **A** and **B** make contact only at the narrow outer rims to prevent the transfer of ink from the roller **A** to the impression roller **B** when no letters are passing between, and the surface of the latter roller is provided with parallel ribs which are disposed between those on the roller **A** which are inked.

FIG. I



The rollers **G**, **B** are driven at a suitable speed by gearing from a spur-wheel on the spindle of the roller **A**, which is operated by means of a band from the main shaft.

The lower end of the wall **L** forming the side of the shoot **H** carries a spring finger **M** having a groove through which the rubber band on the roller **G** passes, to insure that only one letter is fed forward at a time.

After being printed, the letters pass the guide **Q** to a rotating screw **P** by which they are stacked against a movable plate **S** sliding in a slot in the table.

6 *typed pages*, 6 *claims*; 1 *fol. drg.*, 6 *figs.*

3077. 29 Apr. H. T. Robinson, Railway Station, Drouin, Gippsland, Vic., station master.

Chain-belts for securing loads on vehicles.
Classes 58.7; 93.1; 96.1.

To avoid the delay of twitching loading ropes and the inconvenience of their slackening, breaking, &c., the loads on railway trucks and road waggons are secured by metallic chain belts, formed of short lengths of hoop metal **A** linked by bending the ends into flattened links **B** and securing them by rivets **C**; the end links have one or more key-hole perforations **G** which may be hooked on studs attached to plates on the waggon.

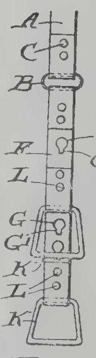


Fig. 1.

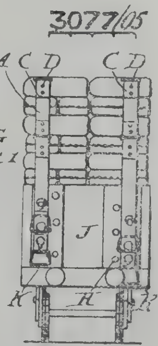


Fig. 3.

To tighten the bands, several studs are placed on each plate, and there are stirrups **K** or straining handles by which the band may be strained before hitching it on the studs; for loads of exceptional girth, the band may have middle sections inserted and coupled by short square-neck bolts with retaining chains.

11 typed pages, 4 claims; 1 fol. drg., 9 figs.

3078. 29 Apr. *Prov. only.*

A. Smith, 105 Coppin-street, Richmond, Vic., dairyman.

"Improvements in strainers for barbed or other wire fencing."

Class 58.3.

3079. 1 May. A. S. D. Cribb, "Fairholme," Milton, Brisbane, Qld., mechanical engineer.

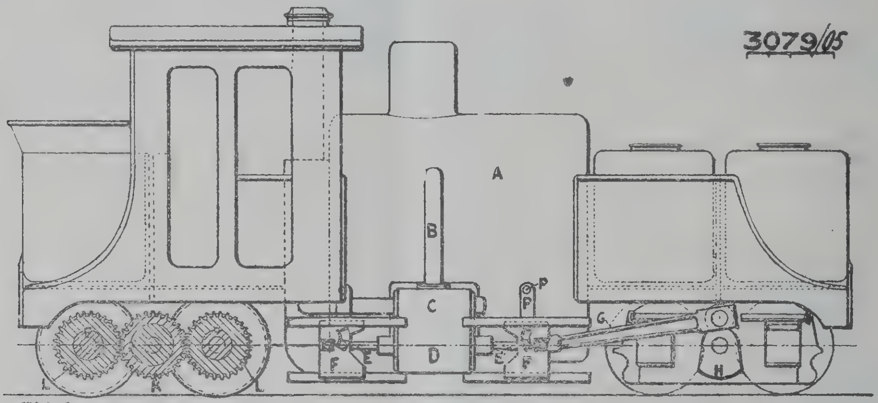


FIG. 1.

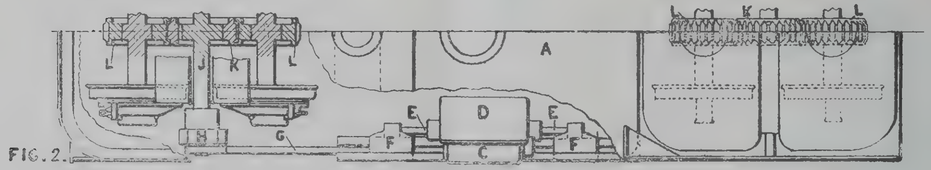


FIG. 2.

Double-bogie locomotive; single engined.

Classes 60.1; 62.8; 64.2; 95.1.

This locomotive has a pair of first motion crank shafts **J** one at each end of the main frame, fixed in bearings on that main frame without radiating devices; each crank shaft passes through the virtual centre of the swivelling device of the bogies; midway between the crank shafts are steam cylinders rigidly attached to the main frame, with piston rods protruding at both ends and linked by the connecting rods **G** to the cranks **H** in both directions.

To compensate for the variations in length of the connexions in this condition, the small ends of the connecting rods are coupled by short links **R**, Fig. 5, to a block **S**, sliding in a curved slot **V** on the cross-head block **F**; the block **S** is lifted by the swinging link **P** to shorten the vertical length between the piston and the small end of the connecting rod, at the ends of the stroke.

The first motion crank shafts have spur gear **K**, Figs. 1 and 2, at the centre of bogie motion, which drive wheels **L** on the bogie axles. On flat curves the teeth of the pairs move sideways slightly, but for sharp curves a spherical coupling, Fig. 4, is provided which allows the toothed rim of **K** to remain parallel to the wheels **L**.

6 typed pages, 4 claims; 2 fols. drgs., 5 figs.

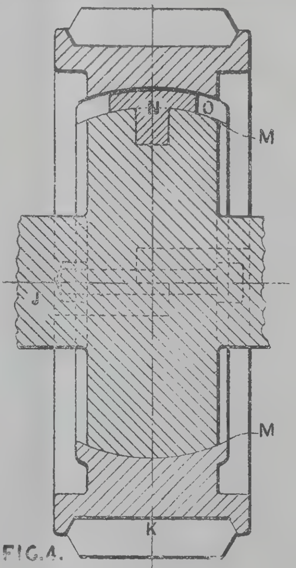


FIG. 4.

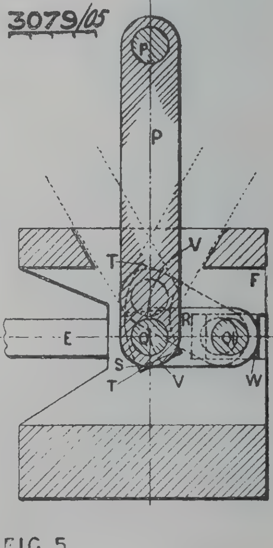


FIG. 5.

3080. 1 May. *C.a.P.* 26 Jan., 1906.

International Cigar Machinery Co., 104 First-street, Jersey City, Hudson, New Jersey, U.S.A. (*assignees of* O. Tyberg and L. Lake, both of Brooklyn, New York, U.S.A., engineers, W. S. Luckett, East Orange, Essex, New Jersey, U.S.A., engineer, H. Knight, Jersey City, Hudson, New Jersey, U.S.A., engineer, and Florence L. Herrington, New York, U.S.A., engineer, all *act. invs.*).

Cigars; transferring, wrapping, and finishing. Class 33.4.

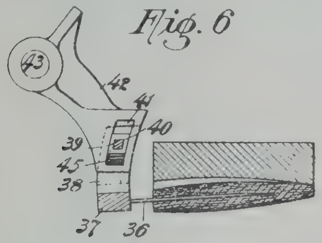
In a cigar machine which applys wrappers to bunches and finishes the cigars, a stack of bunch moulds, extending across the machine between the side frames in guideways 1, Figs. 1 and 2, are supported by shoulders **3** on vertically sliding blocks **2** having hooks **10** which engage with grooves **S**, Fig. 9, in the lower half of the lower mould. Cross slides **11**, having shoulders **12** and **13**, operated by bell cranks **16** and cams **2** are advanced and enter the grooves **S** supporting the upper half of the lower mould while the slide **2** is drawn down by the links **27** and cams **21**, thus opening the mould; the hooks **10** open the inner or tuck side of the mould a little in advance of the head or point side to prevent suction injuring the bunches.

When the bunches have been removed, the block **2** rises replacing the lower half mould, the cross slide **11** is now drawn back, the stack again resting on shoulders **3** is lowered sufficiently for the shoulders **13** to enter the grooves **S** in the second mould, the retaining spring **78** presses against and supports the lower half of the second mould while the empty lower mould is pushed forward on to a table **70** by a cam operated slide **66**, a slide **71** operated by rod **72** and cam **68** now rises, lifting the mould on to rests **74** which are opened against springs **76** at this moment, by a cam **77**, the mould now becoming the lower one of the empty stack.

The bunches are removed from the mould by impaling pins **36**, Figs. 2 and 6, mounted on a cross bar **37** carried by square blocks **40** sliding in slots **41** in arms **42** pivoted at **43** to a sliding carriage **46**, Fig. 1, reciprocated by an arm **48** and cam **52**. The impaling pins **36** enter the tuck ends of the bunches just before the mould is opened, and to avoid injury due to the bunch adhering to the mould, they are removed large or tuck end first by levers **53**, which strike the ends of bar **37**, depressing the blocks **40** in slots **41** against springs **45**, Fig. 6.

The arm **48** now slides the carriage **46** back towards the mechanism at the left of Fig. 1, the arm **62** swinging with it; when the carriage stops the arm **62** continues to swing, rotating by segments **58** and **57** the shaft **43**, which swings the bunches on the impaling pins over to the left of Fig. 1 and places them on endless chain cradles **62** behind a stripper bar **64**;

Fig. 6



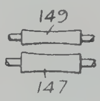


Fig. 1 3080/05

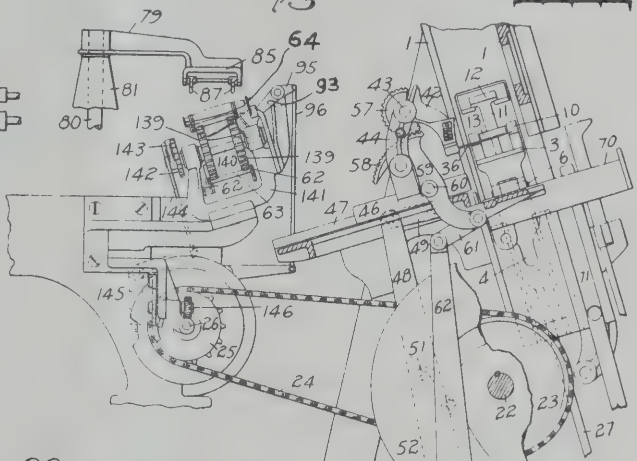


Fig. 9

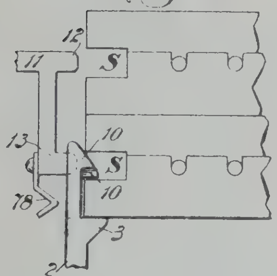
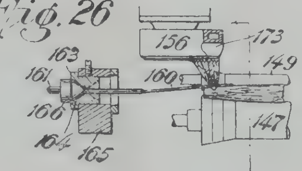


Fig. 26



the carriage then returns withdrawing the pins **36**.

The bunches are transferred one at a time, from the cradle to the wrapping rolls, by an arm **79**, Figs. 1 and 14, fixed to a vertical shaft **80** which is oscillated by cam and gearing from shaft **26**. The arm has two radial holders at its end nearly side by side, **86** for finished cigars, and **85** for bunches, which has depending swinging hooks **87**, Fig. 1, into the path of which the bunches are elevated from the cradles **62**, by a lifter **93** operated by lever **95**, link **96**, and a cam on shaft **26**.

As the arm swings over the lifter, the hooks **87** are swung up to grasp the bunches, by a lever striking a cam on a fixed arm **104**, Fig. 14, extending from the standard **81**; the bunch being carried on by the arm, the head strikes a V-shaped knife **102** and is cut to a chisel shape, severing the binder ring and loosening the filler, a spring-pressed pin **105** meanwhile holding the bunch up to the knife.

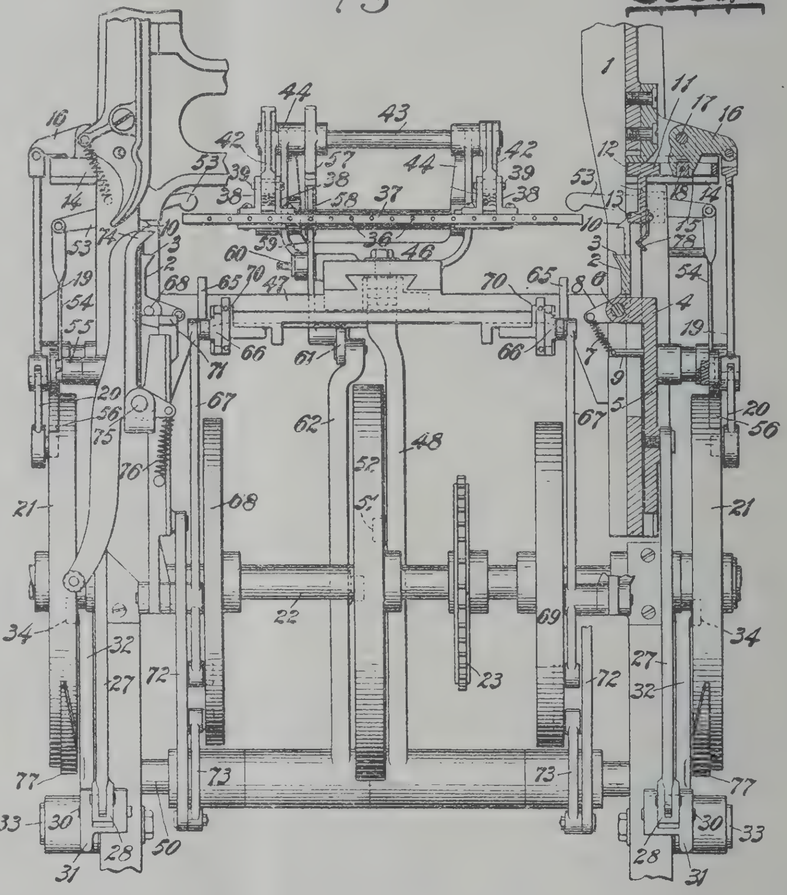
The motion of the arm **79** is now reversed and it swings back to the wrapping rollers on the right of Fig. 14, which open to allow a lifter **108** to elevate a previously wrapped cigar into the path of other hooks on the holder **86**, which are closed by lever **92** striking a projection on a fixed arm extending from the standard **81**, another projection opening the hooks on the holder **85** to deposit a fresh bunch in the lifter which lowers it into the rolls.

The arm **79** then swings back stopping at the polishing head **118**, rotated by a band **122** and pressed against the cigar tip by a spring-operated lever **125**, released by a cam roller on the end of a vertically reciprocating horizontal bar **128** operated by cam **133** on shaft **26**.

The other end of the bar **128** has a head **136** (lower centre in Fig. 14) which operates, by a cam **137** and inclined slots **135**, the shear blades **134** to trim the tuck end. The arm **79** then swings on towards the cradle, the empty holder **85** picks up another bunch from the lifter **93**, and the holder **86** deposits the finished cigar in its place in the cradle chain **62**, which is then moved on one step by the sprocket wheels **139**, Fig. 1, and ratchet wheel **142** operated by bell crank **145** and a cam on shaft **26**.

Fig. 2

3080/05



The wrapping is performed by three rollers **147**, **148**, and **149**, Fig. 14, also shown in relative position in Fig. 1, the upper two **147** and **148** being mounted on swing arms opened by a cam on shaft **112** to receive the bunch. The wrapper is carried from a suction cutting bed of ordinary type to the rollers, by a suction head **156**, Fig. 26, of ordinary type, but, instead of blowing the tuck end down to the bunch in the usual manner, it is engaged by a cam-operated flexible finger **160** sliding in a guide block **163**; the point slides along a groove in the head **156** behind the wrapper, and as the cone **166** engages the conical hole in the guide block, the finger is forced down, carrying the wrapper to the revolving bunch, on which it rolls. As the wrapper reaches the tip of the bunch, a pair of shear blades **174**, **175**, Fig. 31, cut the end, forming a tongue **185**, which is wound around the cigar tip by a conical disc **182** mounted on a cam-operated arm **183**.

Prov. 20 *typed pages.*

Comp. 33 *typed pp.*, 35 *cls.*; 9 *fols. drgs.*, 31 *figs.*

3080/05

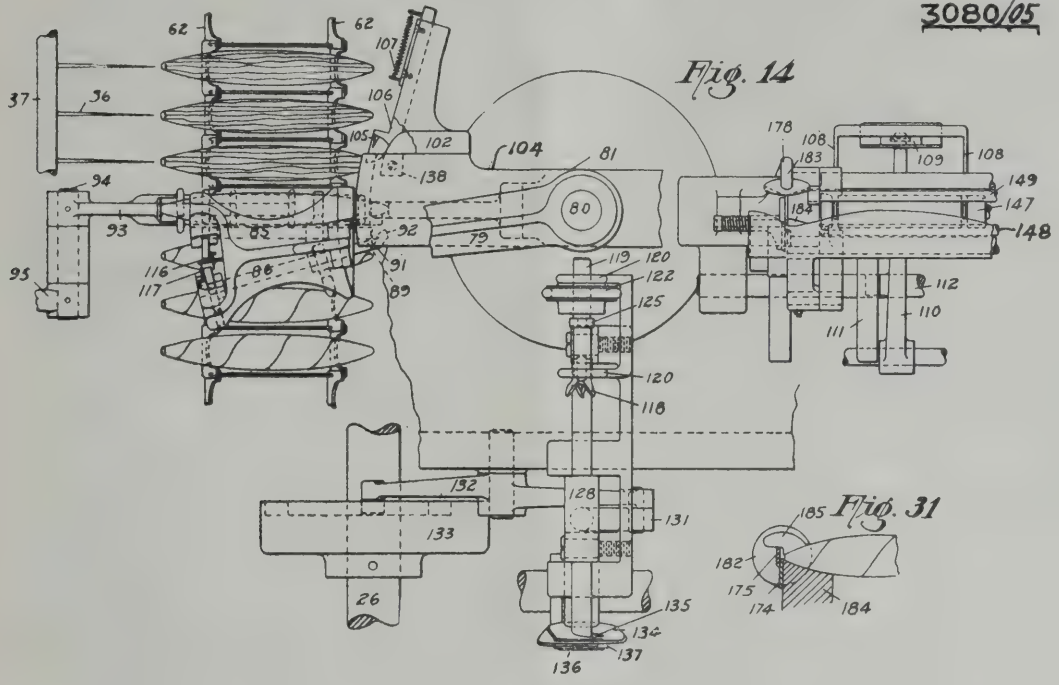


Fig. 14

Fig. 31

3081. 1 May. American Key Can Company, Marquette Building, Chicago, Ill., U.S.A.

Application under Sec. 7—

Qld.	...	6335 ...	23 Nov., 1901
Vic.	..	18,768 ...	25 Nov., 1901
N.S.W.	...	11,775 ...	13 Feb., 1902
S.A.	...	7670/5684 ...	3 May, 1902
Tas.	...	3385 ...	5 May, 1902

Jigs and carrier for can-soldering.

Classes 35.7 ; 73.6.

The drawings show a jig for shallow rectangular cans (as for sardines and the like). The frame or holder **a** has portions fitted to the contour of the cans to hold them in place; the bottom may be integrally formed or may be movable for ejecting the can; the lid is hinged, and has a spring-supported false liner **b**; the lids are held down by a bar **d** and latch **k** or by passing under cams (not illustrated) on the carrier; holes **p** are provided for the admission of flame (or heating device), and for the circulation of cooling air before the can is removed. The edges to be connected are previously coated with solder in any usual manner; the cans are assembled and are placed together in the clamp and laid on a chain-carrier **r**, Fig. 5, and moved firstly over a lamp **s** and afterwards over a cooling blower **t**. The spring lid squeezes out any irregularities of the solder in the first coating.

3081/05

Fig. 3.

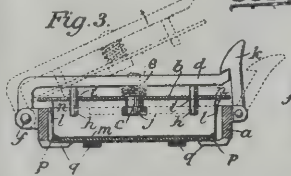


Fig. 2.

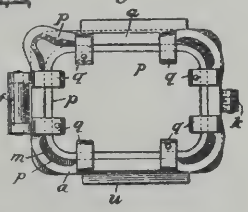
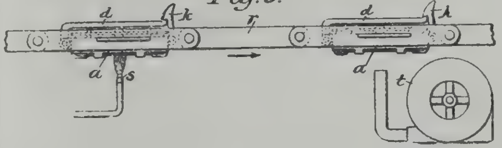


Fig. 5.



9 *typed pages*, 6 *claims*; 2 *fols. drgs.*, 8 *figs.*

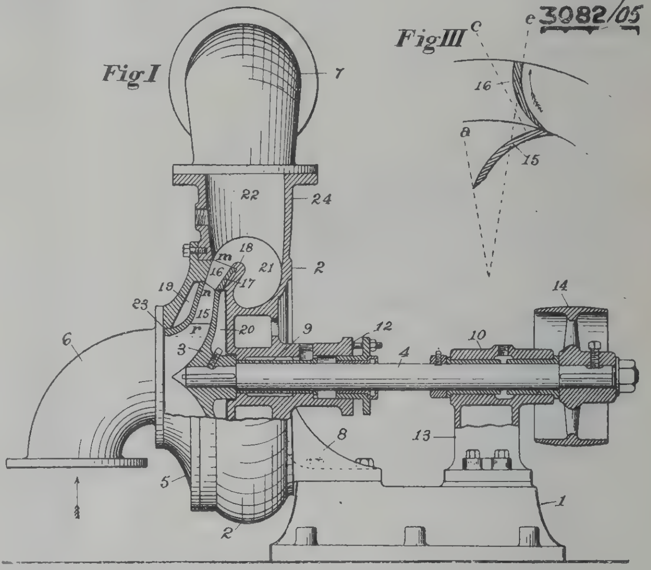
3082. 2 May. HENRY R. WORTHINGTON (*corp.*), 114 Liberty-street, New York, U.S.A. (*assignees of* J. RICHARDS, *act. inv.*, San Francisco, Cal., U.S.A., engineer).

Turbine pumps; guide blades.
Classes 67.2; 68.7.

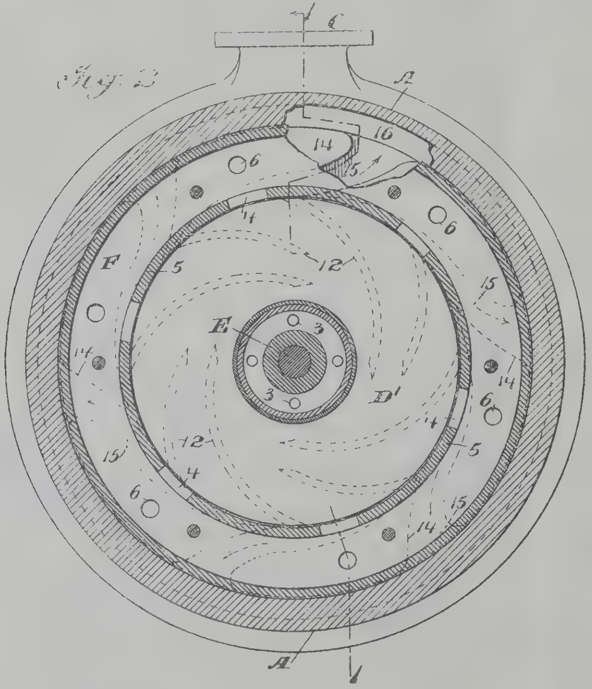
In multiple or single stage centrifugal pumps, the impeller vanes **15**, Fig. III., are curved to give principally radial motion to the water; to further eliminate vortex in the passages leading radially inward to the next impeller chamber, there are fixed guide blades **16** with radial delivery ends and expanding passages.

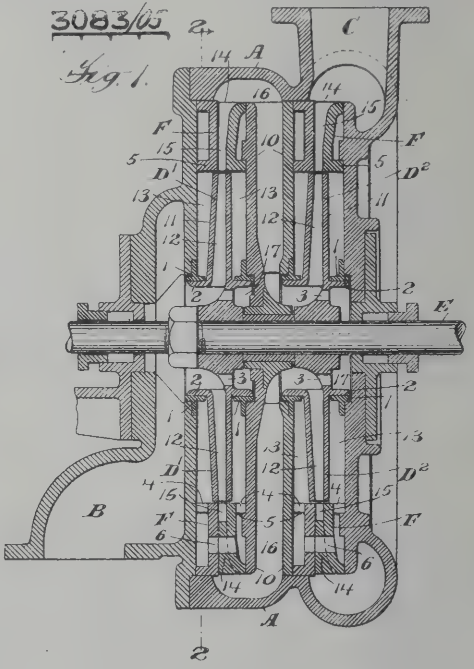
From the last chamber of multistage pumps, and in single stage pumps as Fig. I., the guide blades deliver at reduced velocity into an annular chamber **21**, around which the water may flow in either direction to the discharge **24**.

7 *typed pages*, 3 *claims*; 2 *fols. drgs.*, 4 *figs.*



3083. 2 May. HENRY R. WORTHINGTON (*corp.*), 114 Liberty-street, New York, U.S.A. (*assignees of* F. RAY, *act. inv.*, East Orange, Essex, New Jersey, U.S.A., mechanical engineer).





Centrifugal pumps; balancing.
Class 68.7.

In centrifugal pumps having enclosed impellers, the pressure in the spaces in the front and back of the wheel is equalized by connecting these spaces by a passage for the liquid.

In the form preferred, the wheel **11** draws water at the hub and delivers it through guide blades **14** in the diffusion ring **F**.

Through the guide blades there are passages **6** connecting the annular spaces on either side of the diffusion ring, which in turn are connected to the spaces in front of and behind the wheel by passages **4**. To balance the pressure of the suction water, passages **3** near the centre connect the space in front of the wheel with the space **17** behind it.

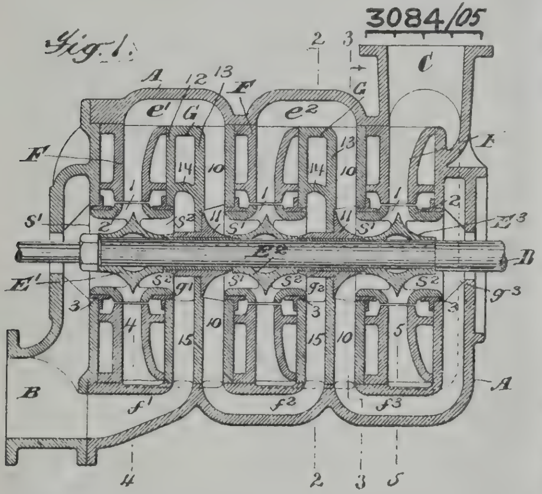
5 *typed pages,* 4 *claims ;* 1 *fol. drg.,* 2 *figs.*

3084. 2 May. HENRY R. WORTHINGTON (*corp.*), 114 Liberty-street, New York, U.S.A. (*assignees of* F. RAY, *act. inv.*, East Orange, Essex, New Jersey, U.S.A., mechanical engineer.)

Duplex impellers in multi-stage turbine pumps.

Class 68.7.

A multi-stage centrifugal pump, suitable for running at high speeds has a series of small-sized double-suction impellers, which deliver into curved annular delivery passages, provided with fixed guide-blades for taking the whirl out of the water.



These passages connect the delivery of one impeller to the suction **s1** of the next, the other sides **s2** of the impellers being connected to the annular chamber by means of axial passages **f2**, **f3**.

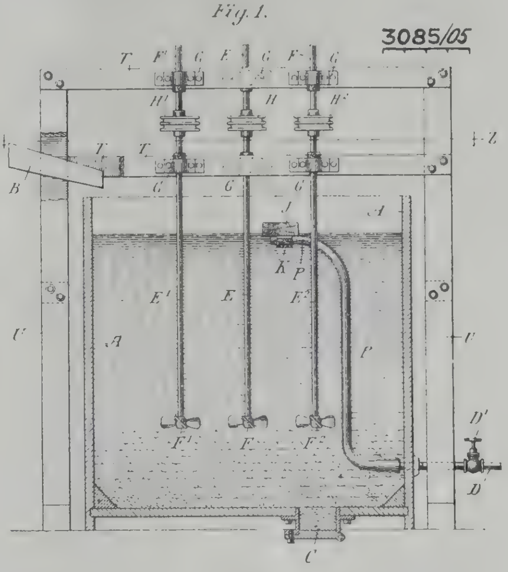
4 *typed pages,* 3 *claims ;* 1 *fol. drg.,* 5 *figs.*

3085. 2 May. W. B. DEVEREUX, Glenwood Springs, Garfield, Col., U.S.A., mining engineer.

Mixing vats for leaching.

Classes 10.8 ; 12.1 ; 14.7.

The mixing vat described in 2574/05 is modified by omitting the vertical guide-blades or radial-diaphragms which reduce vortices; and by using several propellers **F**, **F1**, **F2** placed above the level of the material deposited when the vat is settled.



3 *letterpress pages,* 2 *claims ;* 2 *fols. drgs.,* 2 *figs.*

3086. 2 May. *Comp. lapsed.*

E. DE KLEIST, North Tonawanda, Niagara, New York, U.S.A., manufacturer.

"Improvements in pneumatic action for automatic musical instruments."

Classes 01.6 ; 65.4.

3087. 2 May. *Prov. only.*

J. J. CONDON and W. J. RESIDE, both of Kalgoorlie, W.A., engine-drivers.

"Improvements in ropes and means for signalling or transmitting electricity through same."

Classes 03.2 ; 58.1 ; 59.2.

3088. 2 May. *C.a.P.* 20 Nov.

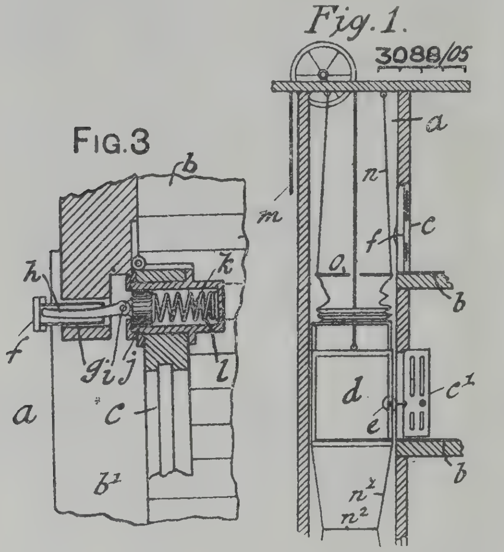
J. JAMISON, Dunedin, N.Z., inventor.

Lift wells ; safety nets, &c. ; door opening.

Classes 59.2 ; 88.4.

To minimize accidents through persons or articles falling down mine shafts or lift wells, a series of platforms or framed nets **o**, Fig. 1, are suspended above or below the cage **d**, by link ropes **n1** with a shorter mid-brace **n2**, so that as the cage moves the platforms will be spread out at short vertical distances apart, or stacked either at the bottom of the well or on top of the cage.

The well doors carry a projecting cam bar **f**, which is pushed outwardly by a roller **e** on the cage, as it passes each stage; the cam bar **f**, has a tube **g**, inside which a finger **h** is attached to a cased spring **k** on the door. Catches (not illustrated) may be used to connect the finger **h** to the door handle or catch.

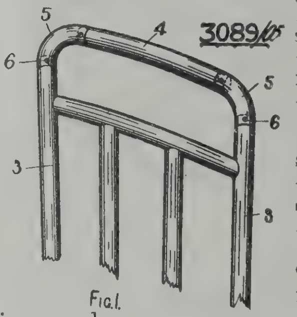


Prov. 3 *typed pages.*
Comp. 6 *typed pages,* 5 *claims;* 1 *fol. drg.,* 3 *figs.*

3089. 2 May. W. B. Grant, Grantvilla, Gordon-road, Gore Hill, Sydney, N.S.W., builder.

Tubular joints for furniture, &c.
Classes 45.9; 74.5.

Bent-wood and other furniture having rails or bars requiring joints at an angle, have the parts connected by metal tubes **5** (termed "bull-noses" in the specification) attached by screws **6**. The metal part may be lacquered or otherwise finished to imitate the adjoining wood.



3 *typed pages,* 3 *claims;* 1 *fol. drg.,* 2 *figs.*

3090. 2 May. *Prov. only.*

Rosie Webb, Sturt-street, Ballarat, Vic., spinster.

"Water heater for domestic and other purposes."

Class 24.5.

3091. 2 May. *Prov. only.*

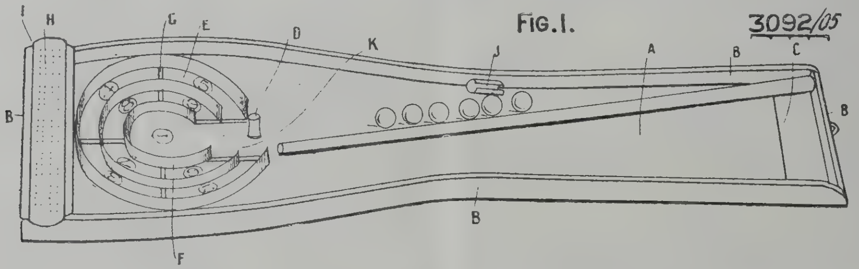
W. D. Langford, 58 Kent-street, Miller's Point, N.S.W., blacksmith.

"Improved gate bolt."

Class 77.1.

3092. 2 May. *C.a.P.* 25 Sept. *Lapsed.*
E. Butler, 14 Little Oxford-street, Collingwood, Vic., cabinetmaker.

Parlour game.
Class 53.6.



A cloth covered board **A** with side and end pieces **B** has numbered circular passages at one end divided by curved partitions **F**, with a rubber peg or post **D** placed between the second and third circle; there is a gap in the circles near the peg. The ball is aimed at the peg and rebounds into the circles. A box **I** at one end is provided for holding the balls, the lid being perforated with peg-holes for the purpose of scoring. The ball may be propelled either by a cue or by the hand.

Prov. 4 *typed pages.*
Comp. 5 *typed pages,* 3 *claims;* 1 *fol. drg.,* 1 *fig.*

3093. 3 May. *Prov. only.*

R. Marlow, Boulder City, W.A., boilermaker.

"An improved preparation for cleansing and protecting the insides of steam boilers and the like."

Class 63.2.

3094. 3 May. *Prov. only.*

J. Brightman, "Paragon Works," Bridge-road, Richmond, Vic., general manager.

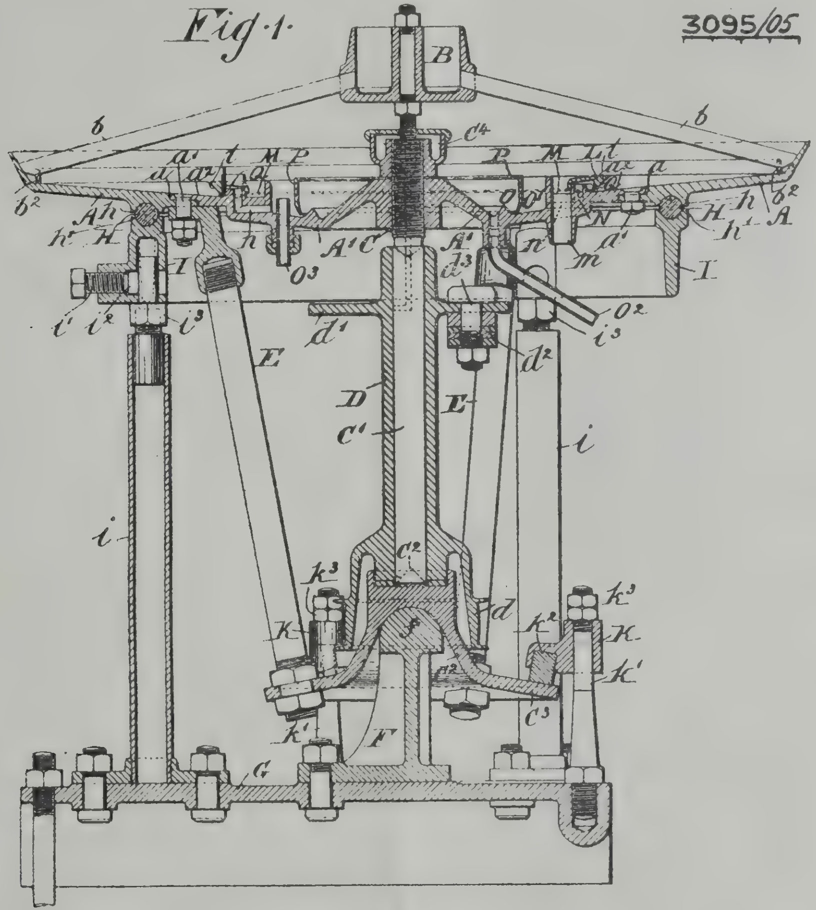
"System of and means for obtaining exact copies of the entries in cash books, journals, and the like books of account and to form a check against fraud."

Class 54.5.

3095. 3 May. The Magnetic Ore Separating Company Proprietary Limited, 47 Queen-street, Melbourne, Vic. (F. J. Odling, *act. inv.*, 2 St. Columb-street, Glenferrie, Vic., mining engineer).

Fig·1·

3095/05



Application under Sec. 7—

Vic. ...	... 15,158	... 4th May, 1898
N.S.W.	... 8,340	... 5th May, 1898
Qld. .	... 4,395	... 7th May, 1898
W.A. ...	... 2,045	... 10th May, 1898
Tas. ...	... 2,162	... 12th May, 1898

Conical vanner; gyrating percussive shaking.

Classes 11.4; 60.4.

The conical dish **A**, **A1** rests on a rubber ring **H**, supported by a metal rim **I**, on three adjustable posts **i**; the centre of the dish has an adjustable depending spindle **C1**, resting on a cupped flange **C3**, which is braced to the dish by three inclined stays **E**; the cupped dish rests on a spherical boss **f** on the base plate, and is prevented from rotating by the rubber stops or blocks **k2** which may be pressed down by the nuts **k3**.

The spindle **C1** carries a loose sleeve **D** having at the top an eccentrically loaded flange **d1** with adjustable eccentric weight **d2**, and at the bottom a pulley **d** which overhangs the boss **f**.

The ore-pulp is distributed from the hopper **B** by the arms **b** to the outer edge of the dish; the upper layer, separated by the shaking, passes at the centre over the annular weir **L** and passes down the shoot **m**; the lower layer passes under **L** and is further sorted under the edge of the inverted baffle **P** and ridge **o**, into parts which pass out at **o2** and **o3** respectively.

8 *typed pages*, 5 *claims*; 2 *fols. drgs.*, 3 *figs.*

3096. 3 May. W. H. Cole, New York, Kings, U.S.A., electrical engineer.

Rail bonding, &c.

Classes 03.6; 15.8; 70.2; 73.6.

Rail bonds of copper or iron are attached to the rails by "thermit," burned near the junction, which forms a lump of alloy gradually varying in composition through the joint.

Fig. 1.

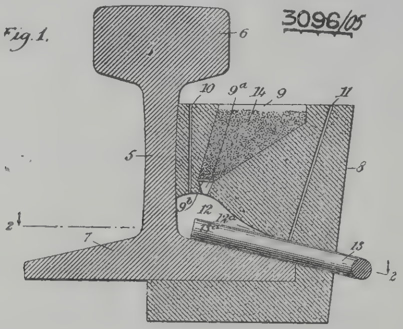


Fig. 1 shows a clay mould for the purpose; "thermit" is put in the cavity **9**, and the mould is broken-off after use.

9 *typed pages*, 8 *claims*; 2 *fols. drgs.*, 4 *figs.*

3097. 4 May. *C.a.P.* 14 July.

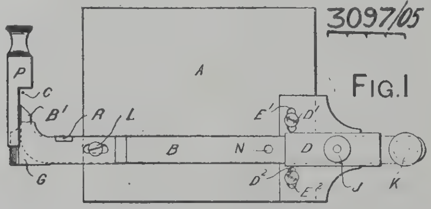
Ellen Townsend, 483 Collins-street, Melbourne, Vic., gentlewoman.

Sewing machine guide for corded edging.

Classes 42.3; 44.5.

To facilitate the attachment of beaded or corded edging between the lining of boots and the button strip, a flat spring forceps **B**, with jaws **G** to fit the bead, is attached to the sewing machine platen **R** by the adjusting slide **D**; the jaws are fixed above and below a guide **B1** (placed close to the needle) by screws **L**, and the presser-foot **P** is suitably cut away to fit; the two parts of the boot are placed above and below the edging held by the guide.

FIG. I



Prov. 5 *typed pages.*
Comp. 6 *typed pages*, 8 *cls.*; 1 *fol. drg.*, 6 *figs.*

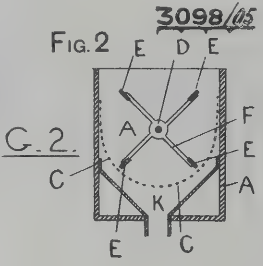
3098. 4 May. A. Shannon, Moculta, S.A., farmer.

Trough sieve with stirrer.

Classes 10.8; 11.3; 31.1.

The semicircular trough sieve **K** has a rotating four-armed beater **E**, which stirs up and pulverizes the clots of manure, &c., so that it will pass the wire mesh and fall through the hopper **K** into a bag, &c.; a crank handle is fixed on the end of the shaft **D**. The box **A** is mounted on four legs.

FIG. 2



3 *typed pages*, 3 *claims*; 1 *fol. drg.*, 3 *figs.*

3099. 4 May. *Prov. only.*

H. R. Davis, Raleigh-street, Braybrook, Vic., fitter.

"An improved brake and wheel locking apparatus for road vehicles."

Class 93.3.

3100. 4 May. *Prov. only.*

Emily Schulze, Franklin-road, Auckland, N.Z., domestic duties.

"Improved medical catamenial appliance."

Class 87.3.

3101. 4 May. *Prov. only.*

A. Olsen, labourer, and J. Cameron, mechanic, both of Cameron-street, Maclean, Clarence River, N.S.W.

"The triplet horsehair spinner and horsehair cord (fishing line).

Classes 38.5; 40.7.

3102. 4 May. *Prov. only.*

C. H. Bissaker, Parker-street, Cootamundra, N.S.W., licensed gasfitter.

"Improved acetylene gas generator."

Class 21.83.

3103. 5 May. *Prov. only.*

S. A. DOYLE, 188 Gertrude-street, East Melbourne, Vic., detective.

"A safety hat holder."

Class 43.8.

3104. 5 May. *C.a.P.* 5 Feb., 1906.

C. W. GORDON, 34 Nelson-road, South Melbourne, Vic., traveller.

Bicycle pedal toe-strap; double ends.

Class 94.9.

A broad strap, with double ends, cut from one piece of leather has the broad part shorter on the front, or side nearest to the toe, to fit the shape of the foot. The buckles are detachable from the strap ends to allow them to pass through the keepers **c**, and meet over the instep, as in Fig. 4.

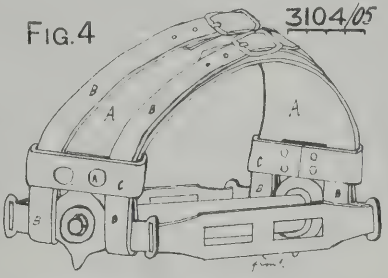


FIG. 4

3104/05

Several other methods of folding the narrow ends of the straps round the pedal plates are illustrated.

Prov. 2 *MS. pages.*
Comp. 8 *MS. pages,* 3 *cls.;* 3 *fols. drgs.,* 8 *figs.*

3105. 5 May. *Prov. only.*

R. PALADINI, 71 Lambton Quay, Wellington, N.Z., carpenter.

"An improved fastener for mail bags and the like."

Classes 54.3; 77.7.

3106. 5 May. E. C. PARAMORE, 111 Queen-lane, Germantown, Philadelphia, Penn., U.S.A., chemist and electrician.

De-odorized chlorine.

Classes 02.6; 08.7; 26.1.

Chlorine gas is generated from peroxide of manganese and hydrochloric acid in the flask **1**, which may be heated by an electric coil; air is pumped out of the flask before using the chlorine, which is washed in the bottle **5**, and circulated by the pump **8** through an electrifier **10**, and a closed vessel **13** containing bleach liquor, from which surplus gas is returned by the pipe **15**.

The electrifier **10** has a flat thin space of extended area, with di-electric walls, outside which high tension electrodes **19** are placed to cause flashes or discharges through the chlorine. Any condensed liquid is drawn off by the tap **11**.

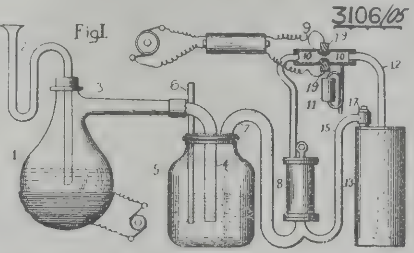


Fig1

3106/05

Chlorine thus treated has little or no odour and improved bleaching qualities.

6 typed pages, 2 *claims;* 1 *fol. drg.,* 4 *figs.*

3107. 5 May. C. C. RIOTTE, 2521 Hudson County Boulevard, Jersey City, New Jersey, U.S.A., engineer.

Marine gas engines; starting and reversing.

Classes 66.2; 66.7; 92.2.

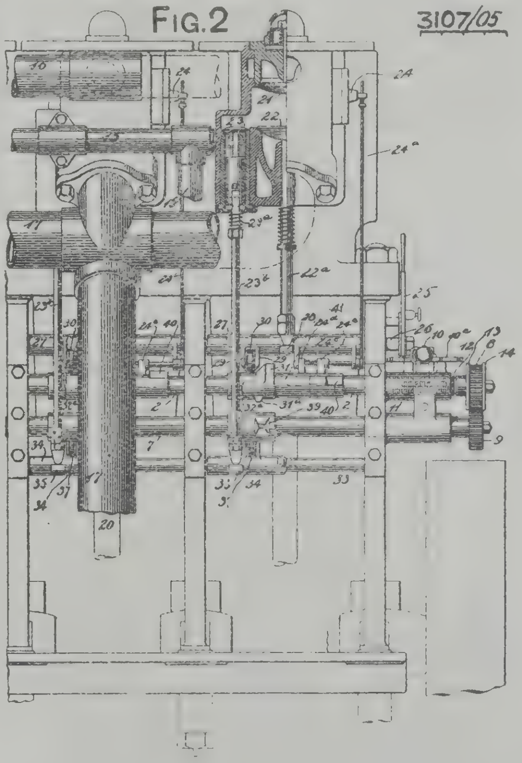


FIG. 2

3107/05

A row of four-cycle gas engines are mounted over the crank shaft at different phases, and an auxiliary pump stores compressed air in a receiver. Each cylinder has independent gas and exhaust valves, and alternate (or all) cylinders have also a pipe supplying compressed air with a cam-operated valve.

Fig. 2 shows the valve gear for the two cylinders at the end of the row, the end one having the extra air valve **23** supplied by the pipe **15**, and opened by the rod **23b** from the four-cornered cams **39** on the shaft **7**; the cams may all be on one shaft run by gearing at half speed as usual, but the illustration shows two pawled shafts **2** and **7** geared by the shrouded pinions **8** and **9**; both shafts may be moved endways by the lever **10** to change the sets of cams for the forward and backward running.

21 is the gas valve supplied by the gas main **16**; **22** is the exhaust valve operated by rod **22a**; **24** is the make-and-break sparker operated by the rod **24a**, and by cams **40, 41** which are changed for direction by the hand lever **25**.

In starting, after placing the lever **10** for the desired direction, the compressed air is admitted to the main **15**, and operates directly on those pistons which are in proper phase, the other cylinders drawing gas charges in proper sequence; if all the cylinders have air valves the engines may be started solely by compressed air and gradually changed to gas action.

Before reversing, the lever **10** is placed at mid-position, when all the cylinders act as pump brakes, gradually stopping the rotation.

16 *typed pages*, 7 *claims*; 3 *fols. drgs.*, 7 *figs.*

3108. 5 May. *Prov. only.*

F. Bricknell, Rundle-street, Adelaide, S.A., caterer (*assignee of* G. A. Clarke, *act. inv.*, Norwood, S.A., waiter).

"An improved portable table with detachable parts."

Class 45.3.

3109. 6 May. J. Pashley, 109 St. David-street, Fitzroy, Vic., manufacturer.

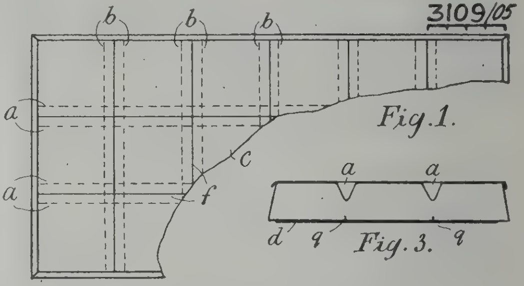
Fire kindlers; advertising.

Classes 20.8; 54.1.

Fire kindlers of agglomerated sawdust, &c., formed in usual cakes with breaking grooves, are faced partly or completely on one or both faces with celluloid or combustible paper, &c., which have free edges near the grooves to facilitate ignition.

Advertisements may be applied to the facing layer if desired.

5 *typed pages*, 6 *claims*; 1 *fol. drg.*, 12 *figs.*



3110. 8 May. *Prov. only.*

J. M. Ruddick, Caldwell-road, Eaglehawk, Vic., mining engineer.

"Improvements in combination bracket devices for holding books, music, or the like in various adjustments."

Classes 01.8; 78.9.

3111. 8 May. *Comp. lapsed.*

A. M. Bryan, Colac, Vic., windmill manufacturer.

"Improvements in motion conversion mechanism for windmills and otherwise."

Classes 60.3; 90.7.

3112. 8 May. *C.a.P.* 6 Nov.

F. V. Raymond, Invercargill, Southland, N.Z., solicitor.

Spreader-bar mountings.

Classes 39.6; 58.7.

Wooden bars for spreading trace chains have plates **D** riveted over the ends, with a slot in the outer end of each; a link of the chain is placed opposite this slot, and locked by the hooked ends of lateral plates **H**, which are secured by the bolt **M**; the plates have long bolt holes to allow the hooks to be drawn back through the link into the end slot; the inner ends **K** are bent to grip the wood when the bolt is tightened.

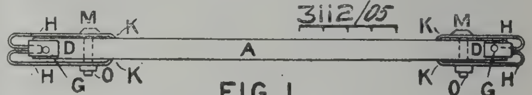


FIG. I.

Prov. 1 *typed page.*
Comp. 3 *typed pages*, 3 *cls.*; 1 *fol. drg.*, 6 *figs.*

3113. 8 May. *Prov. only.*

E. R. F. Blake, Dandenong, Vic., farmer.

"A wind operated bird-scarer."

Classes 31.5; 90.7.

3114. 8 May. E. L. Oppermann, 21 Ashworth Mansions, Elgin-avenue, London, Eng., electrical engineer.

Porous electrodes for secondary batteries. Class 07.3.

The active oxide is mixed with 0.5 to 1.5 % of subdivided animal hair or wool, such as hair felt cut or ground by an emery wheel into a powdery form; the mixture is built into a plate on a grid or frame; the hair is gradually destroyed by successive series of charge and discharge, leaving the plate in a porous condition.

3 *typed pages,* 2 *claims. No drawing.*

3115. 8 May. G. M. Browne, Hanbury-street, Kalgoorlie, W.A., mining engineer and attorney.

Leaching vats on wheels. Classes 14.7 ; 59.9.

Distributing vats **F**, on wheeled carriages **P**, receive ore pulp from launders (not shown), and are moved along the elevated staging **C** for delivery to any one of a row of percolation vats underneath.

6 *typed pages,* 4 *claims ;* 1 *fol. drg.,* 2 *figs.*

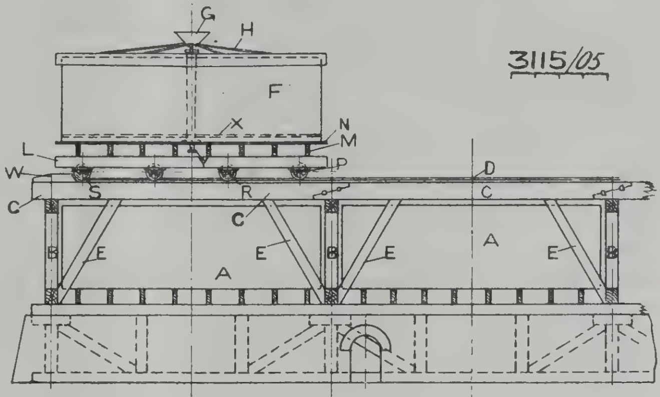
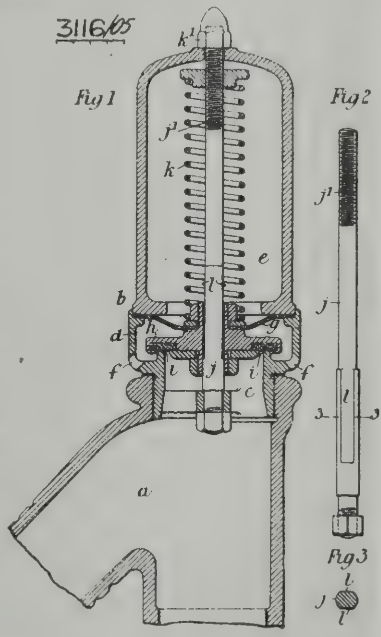


Fig 2

3116. 8 May. The Consolidated Engineering Company Limited, Gotha Works, Slough, Bucks, Eng. (*assignees of* H. E. Brown, *act. inv.,* Beechcroft, London-road, Norbury, Surrey, Eng., engineer).

Vacuum brakes ; diaphragm relief valve. Classes 61.7 ; 74.8 ; 96.6.



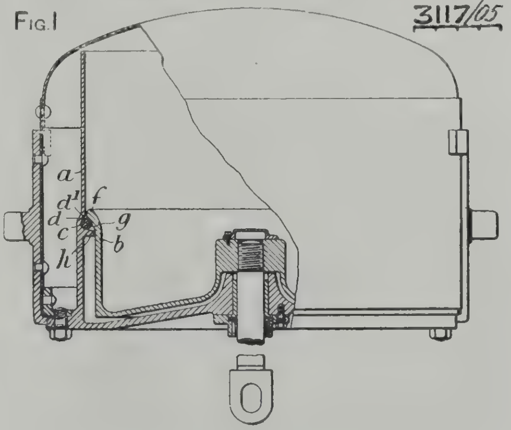
To accelerate the action of vacuum brakes a relief valve is fitted to the swan neck **a** on each car, which has a spring-load **k** so adjusted that a slight reduction of the vacuum in the train pipe allows the air pressure on the diaphragm **g** to open the valve suddenly, thus instantly admitting full air pressure to the train pipe.

The guide stem **j** has weeping flats **l**, to allow the air to leak back into the train pipe and restore the full vacuum in the reservoir **c**.

6 *typed pages,* 4 *claims ;* 1 *fol. drg.,* 3 *figs.*

3117. 8 May. The Consolidated Engineering Company Limited, Gotha Works, Slough, Bucks, Eng., engineers (*assignees of* H. E. Brown, *act. inv.,* Beechcroft, London-road, Norbury, Surrey, Eng., engineer).

Rolling packing for brake cylinders. Classes 60.7 ; 65.4 ; 96.6.



To prevent the accidental displacement of the rolling packing rings of brake cylinders, the piston has a conical flange **g** at its upper end, and the usual lower flange is omitted; in the cylinder, the clearance **d** for the ring **c**, is connected to the parallel part **a** by a conical part **d1**; the cylinder flange below the recess is extended inward to fit the parallel part of the piston and prevent the ring slipping lower.

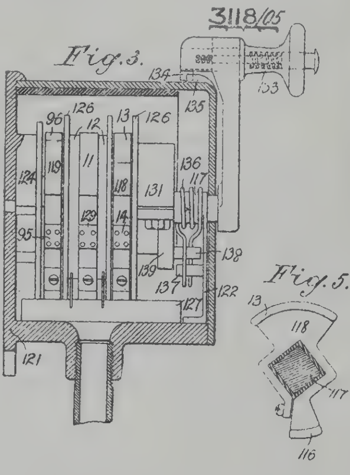
4 *typed pages*, 3 *claims*; 1 *fol. drg.*, 2 *figs.*

3118. 8 May. E. Phillips, 533 Collins-street, Melbourne, Vic., patent attorney (*communicatee of* T. S. Perkins, *act. inv.*, 407 Whitney-avenue, Wilkinsburg, Penn., U.S.A., and R. P. Jackson, *act. inv.*, 429 Kelly-avenue, Wilkinsburg, Penn., U.S.A., electrical engineers).

Multiple-unit electric traction.
Classes 02.8; 04.3; 04.7; 60.3; 95.4.

The apparatus and connexions simplify the operation of the controller drums of the unit motors, the control of the acceleration, and the prevention of over-load.

The general arrangement for each vehicle is shown diagrammatically. The master-controllers, Fig. 3, control the reversing-switch, Fig. 13, and the motor-controllers which are synchronously moved step by step by the ratchet mechanism in Fig. 8.

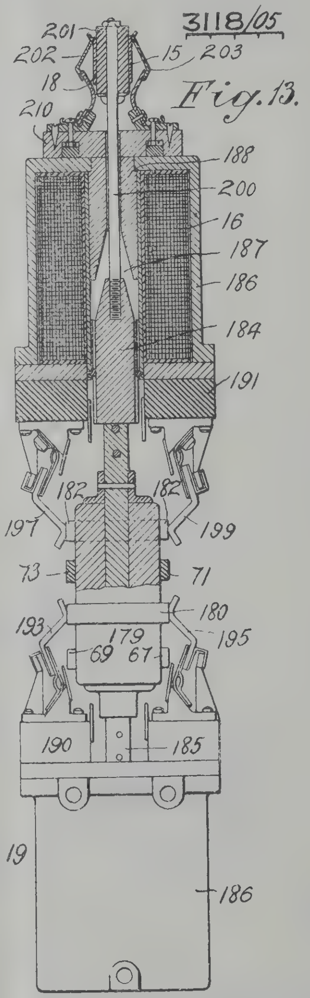


The motor-controllers operate automatically to cut out the resistances, &c., but may be stopped at any one of fourteen points by a simple movement of the master-controller. A limit device is provided to prevent the rotation of the drum, should the current exceed a limit, and in case of overload a switch, Fig. 10, is opened and the master-controller must be moved to the "off" position before current can again be supplied to the motors.

The system can be worked with four train wires, two for the reversing switch and one each for "full series" and "full parallel." If more running positions are required, one additional wire is required for each position.

The master-controller, Figs. 3 and 5, is provided with pole pieces **123**, **124** on the case, and **131**, **132** on the axle, and a blow-out coil **12**, which blows the arc outwardly in all cases; the coil is placed between the drum segments **118**, **119**, and separated by insulating plates **126**; the spring **136** opposes the rotation of the handle in either direction from the "off" position in Fig. 3; there are three steps of the controller in either direction, and a spring latch **134** holds the handle in any position. Fig. 5 shows the shape of a pair of moving contacts and the attachment to the square axle.

The first motion of the master-controller in either direction operates the reversing switch, Fig. 13, bringing or retaining it in the proper position according to the direction of travelling desired. A pair of solenoid motors **16**, **19**, move the cores **184**, **185**, which carry an insulating block **179** between the solenoids, with contact strips, **67** to **73** and **180** to **183**, which make suitable contacts with spring fingers **193** to **199**, attached to insulating blocks on the solenoid casings. A rod **200** attached to the upper core **184** also carries a similar contact device with strips **15**, **18** moving against fingers **202**, **203**, &c.



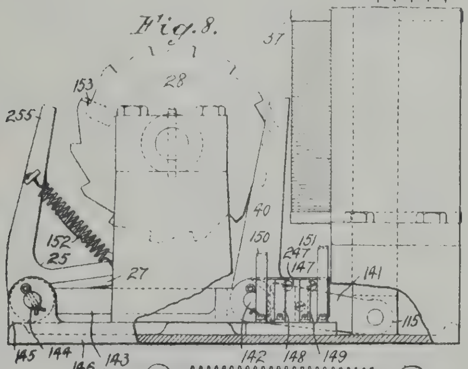
An interlocking connexion is also provided in the circuits of the actuating-magnets of the reversing-switch, so that it can only be operated when the drum is in the "off" position.

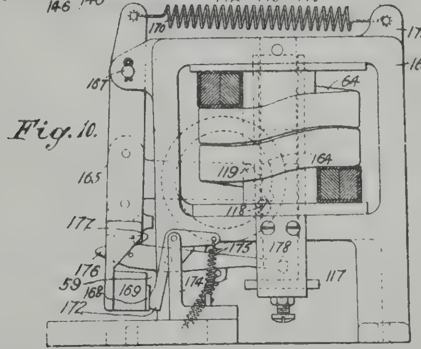
A supplementary rocking lever with two solenoids and switches acts in connexion with the reversing switch and the motor controller as a time-controller and a limit-device.

A second motion of the master-controller from the "off" position starts the reciprocating feed of the motor-controller drum and moves it for half its range, when the reciprocating feed stops until the master-controller is moved to its third position, when the remainder of the steps are made by the motor-controller.

The motor-controller drum has 14 positions of contact, and is held normally at the "off" position, against a spring buffer, by a barrel spring on the axle; at the other end of the axle a 14-toothed wheel **28**, Fig. 8, is moved tooth by tooth by the solenoid **37**. The driving pawl **40** has its centre of action at **144**, but is separately pivoted at **142**, so that the first pull of **37** places the point of the pawl in engagement, and the further motion around **144** moves the drum; the solenoid core is reciprocated by the contact **247** making alternate connexions at each end of the stroke; the speed of reciprocation and of train acceleration being controlled by the rocking lever-switches and by another resistance (in shunt to the solenoid **37**), which may be fixed or may be variable and under the control of the operator.

3118/05





After each stroke of the pawl **40**, the drum is held by a spring detent **27**, which is held in gear by a solenoid (behind **37** in Fig. 10) which is energized (through the reversing switch, Fig. 13) on the first motion of the master-controller. The arm **255** on the same bell crank as **27** moves under the stop **153** on the ratchet wheel, when the detent solenoid is released, and prevents the movement of the drum **5** until **27** is again lifted.

The contacts on the drum also control the separately-actuated switches (illustrated diagrammatically only) for the resistances in the car-motor circuits.

To prevent the car-motors from taking too much current during acceleration, a connexion is made from a point on the farther side of one of the field magnets of the car-motors to part of the supplementary rocking lever control of the controller drum, and serves to neutralize its effect should the current be excessive. This current is obviously of small voltage, and can be varied by varying a resistance or its point of connexion with the magnet winding.

An over-load tripping switch, Fig. 10, is placed close to the spring-barrel of the motor-controller. The current from the trolley or collector passes the coil **64**, and if excessive lifts the plate **117** and trips the trigger-detent **176**, allowing the spring **170** to break the contacts **172** in the circuit of the switch-magnets, which operate the main resistance switches. This trigger-detent is not replaced until the motor-controller drum returns to the "off" position, when a crank-pin **118** on the drum axle engages the cam **119** attached to the lever **165**, and restores the contacts **172** to the position in Fig. 10.

The wire connected to the trolley may be also made a fifth train-wire, so that, should the collector on any car fail, current may be taken from the collectors on the other cars.

20 *printed pages*, 14 *clms*; 9 *fols. drgs.*, 15 *figs.*

3119. 8 May. H. G. Collison, Stewarts Brook, *viâ* Scone, N.S.W., skin buyer.

Ant poison.

Classes 38.9; 80.1.

Two grains of the following mixture are placed in each ant hole:—

Powdered cyanide of potassium	6 oz.
Arsenic	1 oz.
Bluestone	1 oz.

2 *MS. pages*, 1 *claim*. *No drawing.*

3120. 9 May. *Prov. only.*

R. J. W. Bridge, Biboohra, *viâ* Cairns, Qld., engine-fitter.

"A rotary vehicle for carrying heavy loads."

Class 93.1.

3121. 9 May. *Prov. only.*

G. T. Macfarlane, 139 Queen-street, Woollahra, N.S.W., retired sub-lieutenant Royal Indian Marine.

"Improved fastenings for braces for suspending trousers."

Class 43.9.

3122. 9 May. *C.a.P.* 24 Nov.

P. H. O'Keeffe, Ramornie, South Grafton, N.S.W., extract maker.

Salting and corning meat.

Class 35.3.

The corning of meat is hastened, and meat from which extract has been removed may also be more favorably treated by this process.

A stock liquor is prepared by soaking 6 to 8 lbs. of raw meat in cold water for eight hours; the meat is then taken out, washed and parboiled in some fresh water, and again placed in the liquor with 1 lb. of saltpetre, and soaked for 13 hours; the liquor is reboiled, cooled, and strained.

This stock liquor is used with any usual pickling additions of salt, saltpetre, and spices; meat is thoroughly salted by immersion in this liquor for about 2½ hours.

Raw meat boiled in diluted stock liquor (1 : 16) along with usual pickling ingredients, is corned during the process of cooking. Parboiled or scalded meat from the extract-process may be similarly corned.

Prov. 4 *typed pages.*
Comp. 4 *typed pages,* 5 *claims. No drawing.*

3123. 9 May. M. Steel, *act. inv.*, High-street, Gosforth, Northumberland, Eng., plumber, and R. Thornton, *assignee*, The Grove, Gosforth, Northumberland, Eng., theatre proprietor.

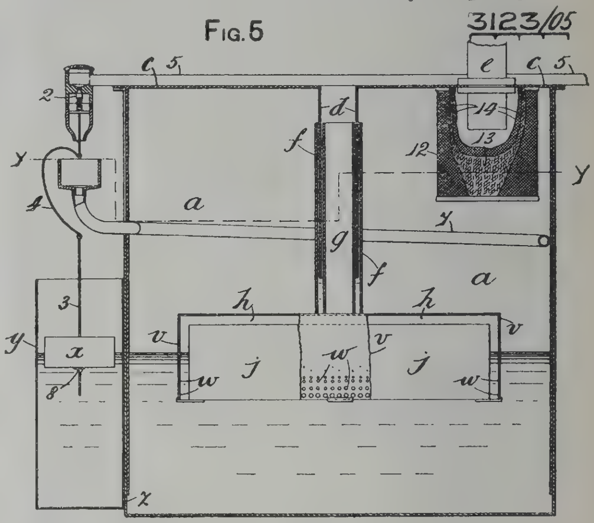
Air carbureter.

Classes 21.4; 66.5; 74.8.

The air is distributed in a bath of oil by perforations arranged around a float **j**, which is guided by an inlet tube **d** in a mercury lute **f**, **g**; the jets are maintained at a constant depth.

In Fig. 1 the perforations are the lower ends of a ring of tubes **k**, against each of which a plate is placed to spread the air in a film; the plate may be on a sliding cap for adjustment; the oil is admitted at the bottom by a spring valve **b**, which is opened by the adjustable rod **q** attached to the float; the air is extracted through **E**, and if supplying a gas engine the exhaust is circulated in the jacket **11** to heat the oil; and dust is caught by the gauze **10** over the inlet **d**.

FIG. 5



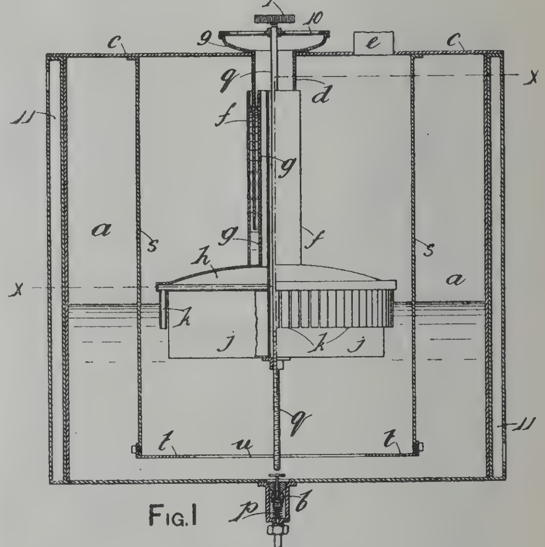


FIG. 1

In Fig. 5 the air perforations are arranged around the lower edge of the drum float, and a separate valve **2**, with a float **x** in an external cistern regulates the oil supply which enters through a perforated pipe **7** around the main tank. The gas leaves the tank through the bag strainer **12** to **14** to separate spray, &c.

For lighting purposes air may be pumped in at **d** and distributed from **e**.

6 *typed pages*, 3 *claims ;* 2 *fols. drgs.*, 6 *figs.*

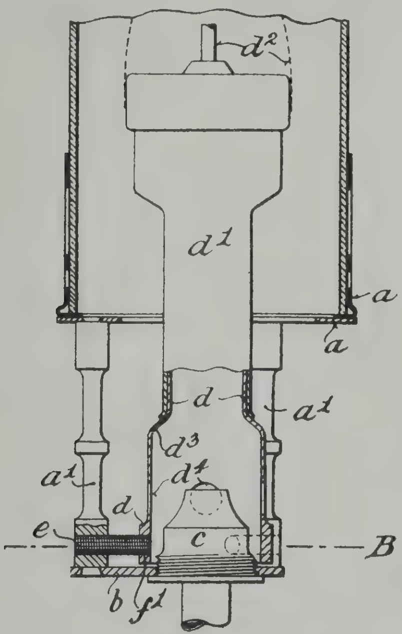
3124. 9 May. D. ANDERSON, Ashdale, Satanita-road, Westcliff-on-Sea, Essex, Eng., engineer.

Spring supports for incandescent mantles.

Class 23.5.

The burner **d^1** and mixing-chamber **d** are supported independently from the supply nipple **c**, by horizontal spiral springs **e** radiating from the pillars **a^1** supporting the gallery **a** ; they may be fixed by studs or screwed into the pillar and mixing-tube.

FIG. I 3124/05



When applied to inverted burners, a plate of refractory material is fixed under the springs to protect them from the heat.

7 *typed pages*, 5 *claims ;* 4 *fols. drgs.*, 10 *figs.*

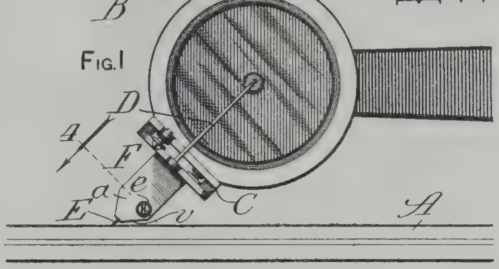
3125. 9 May. A. O. SACHSE, 454 Collins-street, Melbourne, Vic., patent attorney (*communicatee of* H. S. MILLS, *act. inv.*, 11 to 23 South Jefferson-street, Chicago, Cook, Ill., U.S.A., manufacturer.

Wire clamp for gramophone stylus.

Classes 01.7 ; 55.7.

The stylus needle is made of very thin wire so that it always presents a very fine point to the record. In order to give it sufficient rigidity it is clamped to within a very short distance of the tip.

3125/05



The clamp **a** has two grooved jaws, connected by a set screw **e** ; the jaws are readily separated by an enclosed spring on the screw being loosened.

It is stated that this method of mounting a stylus needle is particularly applicable to coin-freed mechanism, as the fine point will last a considerable time without the need of removal.

6 *typed pages*, 3 *claims ;* 1 *fol. drg.*, 4 *figs.*

3126. 9 May. *Prov. only.*

B. P. KEOGH, 19 Soudan-street, Malvern, Vic., auctioneer.

"A combined garden stake and water distributing device."

Class 31.9.

3127. 9 May. J. H. CHRISTENSEN, Sövejen, Sölleröd, Denmark, civil engineer.

Relays for telephones and wireless telegraphy.

Classes 01.7 ; 05.2 ; 05.5 ; 05.6.

These relays are for increasing the sound from telephones and telegraphones, and for reinforcing impulses of current from electrolytic or magnetic wave-detectors used in wireless telegraphy.

Two or more contact-pieces are suspended to rest lightly against another contact-piece fixed to a telephone diaphragm ; they are in circuit with a second telephone of some 150 ohms resistance and a battery of 8 volts or more.

In Fig. 1 carbon contacts **f** are supported by thin twisted wires **e**, from springs **d**, so that they just make contact with a carbon plate **c**, fixed to the diaphragm of a telephone **a**. Exact adjustment is effected by the screws **g**. The local circuit passes through the contacts **f** and the plate **c** in series.

3127/05

In Fig. 4 the contacts **k** are suspended on thin rods **r** from needle-point rocking supports; the pressure can be varied by adjusting the upper balance ball. The eccentric roller **v** may be turned to lift all the rods **r** and cut out the relay.

In Fig. 6 the rods are mounted on jewelled pivots **5**, the space behind the jewels being filled with mercury in order to make contact.

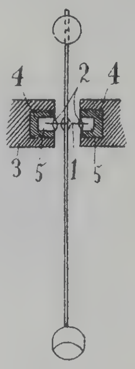


FIG. 6

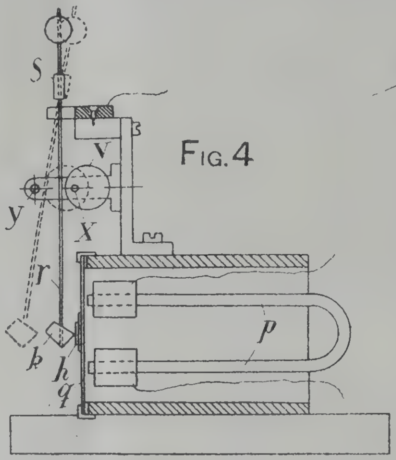


FIG. 4

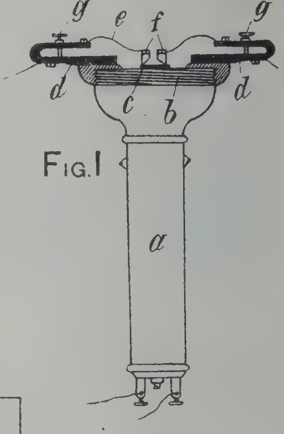


FIG. 1

7 typed pages, 5 claims; 2 fols. drgs., 6 figs.

3128. 9 May. SOCIÉTÉ GÉNÉRALE DE LA SOIE ARTIFICIELLE LINKMEYER SOCIÉTÉ ANONYME, 14 rue Simonis, Brussels, Belgium, manufacturers of artificial silk (*assignees of* R. LINKMEYER, *act. inv.*).

Artificial silk from cellulose.
Classes 09.1; 40.5.

To obtain a more concentrated solution than by usual processes, the cotton is bleached, freed from grease, and steeped for several hours in a weak cupro-ammoniacal solution (9 grams copper and 90 grams ammonia per litre) to soften and swell the cotton fibres without dissolving it.

This cotton is withdrawn, air-dried, and then dissolved in strong solution (16–18 grams copper and 250 grams ammonia per litre) at temperature of 10°C. or a little lower; a few drops of caustic soda hasten solution.

The solution is filtered and agitated in vacuo to expel excess of ammonia; it is then squirted into caustic soda or potash at 20° Beaumé, and the fine silky threads are removed and air dried; copper is removed by treatment with a 10 to 30 per cent. solution of sulphuric acid. The brilliancy of the threads is increased by drying the skins under tension in a screw rack.

8 typed pages, 4 claims. No drawing.

3129. 9 May. SOCIÉTÉ GÉNÉRALE DE LA SOIE ARTIFICIELLE LINKMEYER SOCIÉTÉ ANONYME, 14 rue Simonis, Brussels, Belgium, manufacturers of artificial silk (*assignees of* R. LINKMEYER, *act. inv.*).

Artificial silk.
Classes 08.9; 40.5.

The cellulose is dissolved in cupro-ammoniacal solution; the free ammonia is expelled and recovered by agitation in vacuo, and redissolved in water for further use.

The solution may then be drawn out into threads, which rapidly solidify in air, and may be converted into artificial silk by treatment with dilute sulphuric acid (20 per cent.).

Threads of greater brilliance may be obtained by squirting the threads into a vat containing a 2 to 5 per cent. solution of sulphuric acid; the threads next pass into a concentrated lye of caustic soda of 10 to 40° Beaumé; they are next washed in water, in 5 per cent. sulphuric acid, and again in water before being dried.

8 typed pages, 8 claims. No drawing.

3130. 9 May. H. REID, Hydepark Works, Glasgow, Scot., director, and D. MacN. RAMSAY, 15 Florida-street, Glasgow, Scot., engineer.

Electric locomotives carrying turbine-generators.
Classes 63.8; 95.2; 95.4.

In the locomotive shown in Fig. 2, two six-wheeled motor-bogies **B** carry a truck **A**, on which the boiler **C**, turbines **D**, condensers **R**, **L**, electric generator **E**, exciter **F** for the generator, and other parts, are mounted.

The condenser is air-cooled; there are three series of tubes **L** arranged along the sides and over the top of the structure enclosing the mechanism; opposite ends of the tubes are connected to headers on the side frames, one side receives the exhaust steam, and the other is connected to the centrifugal exhaust pump **C**, the condensed water being discharged into the feed-well; each set of tubes is enclosed in a casing **O** fitted with a series of louvres, the side and top louvres facing in opposite directions, so that a current of air flows in at the side louvres and out at the top when the locomotive is running in one direction, and reversely when running in the other direction.

The louvres may be opened and closed by levers or shutters; the exit louvres nearest the boiler are normally kept closed, the air entering that section being led over the tubes to the firebox.

3130/05

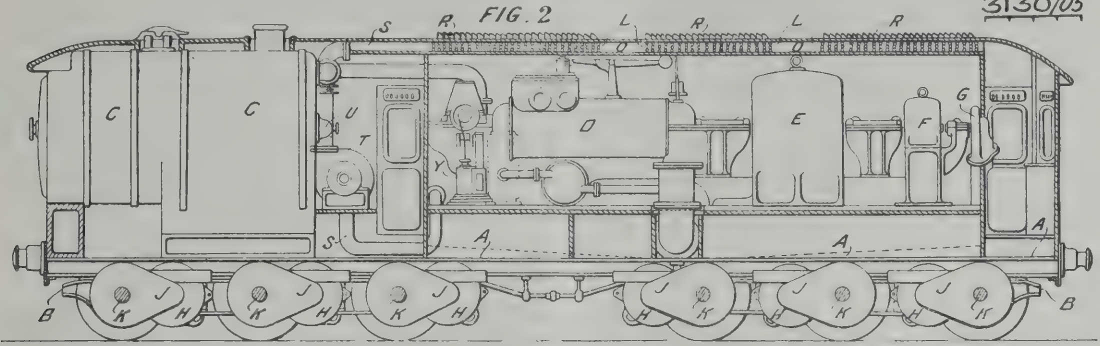


FIG. 2

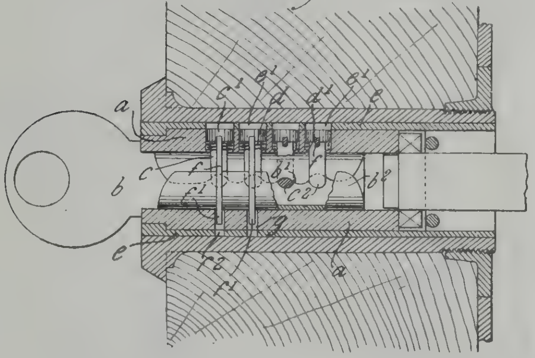
A fan **T** draws air from the condenser casing through the two ducts **S** (or through only the lower one) for mechanical draft when required.

8 *printed pages*, 3 *claims*; 4 *fols. drgs.*, 4 *figs.*

3131. 9 May. F. W. Schroeder, 9 Arundel-street, Strand, London, Eng., engineer.

Yale pin-locks.
Classe 77.3.

Fig. 1 3131/05



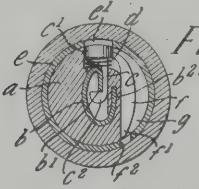


Fig. 2.

To protect the operating edge of a Yale key from wear, and to prevent an impression from being taken, the key is folded longitudinally as shown at **b** in Fig. 2, a correspondingly-shaped keyhole and wards being formed in the rotatable barrel **a**, Fig. 1.

The locking-pins are formed with two legs **c**, **f**, Fig. 2, which pass through slots in the barrel, the leg **c** having a hooked end **c2** which engages with the operating cams on the edge **b1** of the key.

On insertion of the key, the pins are drawn downward so as to withdraw the heads **c1** from the fixed sleeve **e**, and allow the barrel **a** to be turned. The long ends **f1** of the legs **f** engage with slots **f2** in the fixed sleeve **e**, if a false key is employed to open the lock.

In a modification, a slot is made in the protective flap **b2** of the key to receive the ends **c2** of the locking-pins.

4 *typed pages*, 2 *claims*; 1 *fol. drg.*, 4 *figs.*

3132. 9 May. W. S. Thom, *C.E.*, G. V. Mocatta, *C.E.*, A. H. McGlashan, inspector, and A. J. McGlashan, inspector, P.W. Dept., Sydney, N.S.W.

Application under Sec. 7.

N.S.W. ... 13,789 . . 7th January, 1904.

Railway "formation" plough.

Classes 84.3; 98.4.

The edges of the "formation" closely adjoining the sleepers are trimmed by a pair of lateral scraping ploughs which are attached to a ballast waggon and are hinged for turning-up during travelling, as at the right hand of Fig. 2.

The mould board **B3** has a forward cutting edge and is slung by stays **E**, **D** (with a turnbuckle **D**^{1} for adjustment) to hinges on the side of the car; it is stayed (in plan) to a bar which is parallel to the road and as close as possible to the ends of the sleepers; the outer end has a tail piece **B6** for spreading the earth displaced by the scraper.

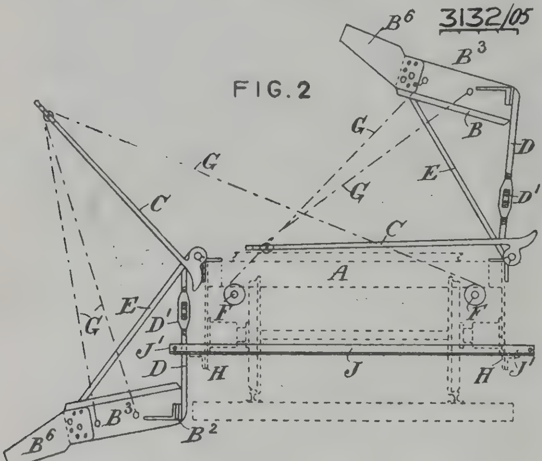


FIG. 2

3132/05

The plough is supported and lifted by chains **C**, passing over a hinged strut **C**, to winches **F** on the opposite side of the truck.

Comp. 4 *typed pages*, 2 *claims*; 1 *fol. drg.*, 2 *figs.*

3133. 9 May. *C.a.P.* 31 Jan., 1906.

R. SAGGERS, "The Willows," Longwood, Vic., grazier.

Breeching strap for gigs.

Class 39.6.

A strap **1** with loops **5** at each end, is attached across the shafts **2** by straps **8** through the keepers **7** on the shafts; this strap **1** replaces the breeching on harness for two-wheeled vehicles, and also serves as a kicking strap.

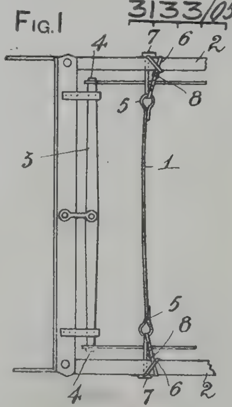


FIG. 1

3133/05

Prov. 2 *typed pages.*

Comp. 3 *typed pp.*, 2 *claims*; 1 *fol. drg.*, 2 *figs.*

3134. 9 May. E. N. WATERS, 414–418 Collins-street, Melbourne, Vic., patent attorney (*communicatee of* THE EDISON ORE MILLING SYNDICATE LIMITED, Fitzalan House, Arundel-street, Strand, London, Eng., *assignees of* T. A. EDISON, *act. inv.*, Llewellyn Park, Essex, New Jersey, U.S.A., electrical engineer).

Magnetic separators; gravity feed.

Classes 02.1; 11.7.

A thin film of ore is dropped with the lowest possible velocity against the edge **5** of the upper pole piece of a narrow magnetic field, in which the plane of maximum density extends to the opposite pole edge **4** at a slope of about 40° from the vertical; the non-magnetic particles drop vertically from the upper pole in front of the partition **9**, and magnetic part is deflected and falls behind the partition. To reduce the speed of the stream of ore, it is retarded by zigzag shelves **7** and **8**.

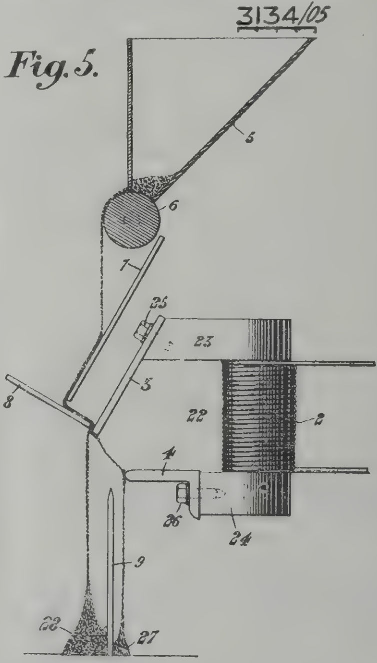


Fig. 5.

3134/05

The most highly magnetic part should be separated from the ore by a previous operation so that no particles will actually stick to the lower pole and clog the gap. It is found that a stream one-eighth of an inch thick is more highly concentrated by three passes, than a stream of one-quarter of an inch thick by six passes.

A battery of magnets is arranged vertically and the streams from each side of the partitions **9** are collected and divided again by the magnets below in any convenient scheme. One scheme illustrated diagrammatically, has a primary battery of six magnets in which the front or less magnetic part is re-divided by each magnet below, while the whole of the more-magnetic part is collected and mixed in an elevator, which raises it to a second battery of four magnets from which the rear and more magnetic part is re-divided, while the least-magnetic part is conveyed away with tailings from the first battery.

The magnets should have pole edges of considerable horizontal length transversely to the lines of force, and are conveniently made, as in Fig. 5, by bolting a relatively thin plate **5** (about four feet long) to the upper branch from a more massive central yoke **2**, and an angle-iron **4** to the lower branch, using a gap from 3 to 4½ inches across; the reluctances should be arranged to produce a practically uniform magnetic density along the whole edge.

14 *typed pages,* 15 *claims;* 4 *fols. drgs.,* 5 *figs.*

3135. 9 May. G. H. WALLACE, Brunswick-street, New Farm, Brisbane, Qld., electrician, and W. H. LOWTHEN, Noble Estate, Clayfield, Brisbane, Qld., mechanician.

Central and branch totalizators, &c.
Classes 04.3; 53.3; 54.2; 56.2.

To issue tickets of several values, and record bets at branch offices on a racecourse or elsewhere, on the several horses entered, each branch place is connected with the central booth by as many wires as the product of the number of horses and the kinds of tickets, together with totalizing wires and return circuits if earthing is not used; telephones are also installed.

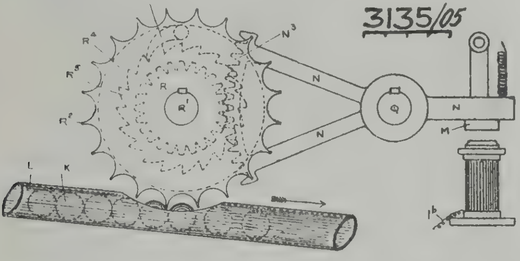


FIG. 2.

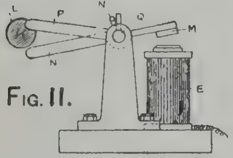


FIG. 11.

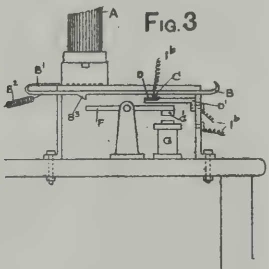


FIG. 3

At each branch there is a ticket issuing device, Fig. 3, for each value and for each horse; the tickets are stacked in the tube **A** and drawn out singly by the slide **B**, which makes contact between **C** and **D** for each withdrawal; the current through **D** operates a ball escapement at the central booth, and a counter at the branch; before starting the race, the central office sends current through the magnet **G** which lifts the detent **F** in the path of the tooth **B3** and prevents the issue of further tickets.

The preferred escapement is shown in Fig. 11; the rock shaft **Q** carries arms **P** and **N** which cross the tube race at distances apart corresponding to the number of balls indicating the value of the ticket.

The escapement in Fig. 2 allows only one ball to pass at each contact, but may be geared up to deliver more if desired.

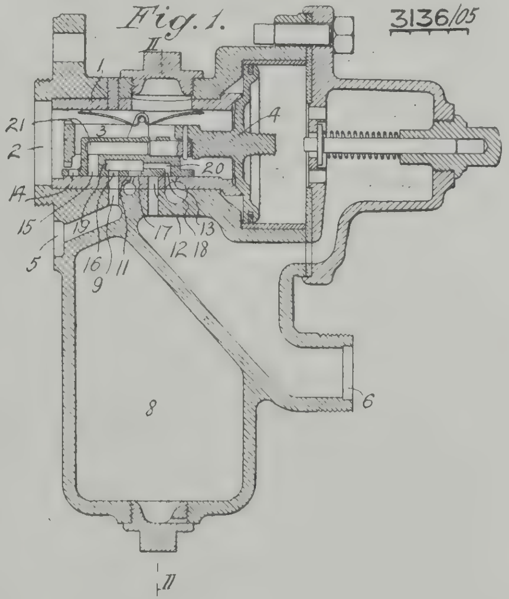
The balls from the reservoirs for several horses are led through tubes, and at each stage of sorting are exhibited in a spiral column between concentric glass tubes.

10 *typed pages,* 6 *claims;* 4 *fols. drgs.,* 12 *figs.*

3136. 10 May. W. J. SPRUSON, 169 King-street, Sydney, N.S.W., patent attorney (*communicatee of* J. W. CLOUD, *act. inv.,* 82 York-road, King's Cross, London, Eng., engineer).

Railway air-brakes; accelerating valves.
Class 96.6.

The triple valve has ports and passages which cause the train-pipe to exhaust into one or more venting-chambers and thus produce accelerated action in both full and partial applications.



In the valve seat, the port **9** is connected to the brake cylinder, a port behind it to the atmosphere, port **11** to the small venting chamber situated behind the chamber **8**, port **12** to the train-pipe at **6**, and port **13** to the larger venting chamber **8**.

The sliding valve has ports **14**, **15**, **16**, **17**, **18**, of which **14** passes through the valve, **15** is connected to the graduating-valve, and **16**, **17**, **18** are connected together by a passage **19**, **20** in the valve. When the valve is at release, the cylinder and both venting-chambers are connected to atmosphere.

In a partial application, the train-pipe is vented to the small chamber through ports **12**, **17**, **19**, **16**, **11**, and in a full application it is vented to the larger chamber **8** through ports **12**, **16**, **19**, **17**, **13**, or it may be vented in a similar manner to the atmosphere, or the ordinary quick-action triple valve may be used for accelerating full applications.

In a modification, the slide valve has an auxiliary plate or slide valve interposed between the part connected to the piston **4** and the valve seat **1**; this is dragged and limited in motion by stops on the upper valve.

In a further modification, another slide valve is placed in a chamber on the train-pipe side of the piston, and is moved by stops on the extended piston rod; a large amount of slack motion is allowed in this valve, and also a small amount is allowed for the slide on the brake side of the piston.

8 *printed pages*, 3 *claims*; 6 *fols. drgs.*, 15 *figs.*

3137. 10 May. *Prov. only.*
W. H. Brewer, Queen's-bridge, South Melbourne, Vic., manufacturer.

"Re-inforced fire-proofing and insulating material."

Class 88.4.

3138. 10 May. *Prov. only.*
A. Loughnan, "Bella Vista," Canterbury-road, Surrey Hills, Vic., clerk.

"Combined envelope account or letter form."

Class 49.3.

3139. 10 May. G. Gardner, 130 Hyde-street, Yarraville, Vic., canister maker.

Cylindrical can shells.

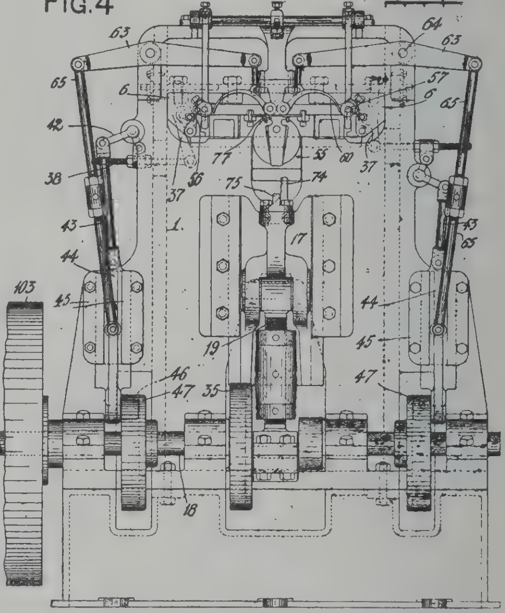
Classes 73.2; 73.6; 73.8.

Rectangular sheet-metal blanks are bent up at their edges and bent around a mandrel, the edges are engaged and the seam pressed, and the shell is passed through soldering-apparatus.

Blanks are fed under guides to the bending and closing press **6**, Figs. 4 and 7, by a reciprocating slide **7** (with spring dogs), which feeds a new blank and pushes each a step in the machine at each reciprocation.

In the back part of the machine (Fig. 7) the blank is held by clamps, and the joint edges are bent in opposite directions around the clamp edges **22**, **23** to form engaging folds, by bars **51** mounted on levers **37**; the lower clamps are hinged to the frame and are supported by a bar **25** connected to a reciprocating slide **27**, so that when the bar is lowered the clamps fall slightly inward and release the blank, which passes on to the front of the machine (shown in Fig. 4) above an expanding mandrel **55**, Fig. 12, around which it is bent by curved levers **60**. The levers **60** are timed so that one closes before the other, to cause the hooked ends of the blank to overlap; the mandrel then expands and draws the edges together ready for closing into the groove **76** by the swage **75**, which is lifted by the slide **17**.

FIG. 4



The mandrel is expanded by a cam-shaft **69**, Fig. 12, having a mutilated pinion rotated by the rack finger **74**; it collapses by the weight of its outer parts on the retirement of the rack finger.

The closed shell is transferred from the mandrel by ejector rods **77**, Fig. 12 (attached to the feed slide) which deliver it to the detachable soldering-apparatus, or eject it when a soldered seam is not required.

FIG. 7

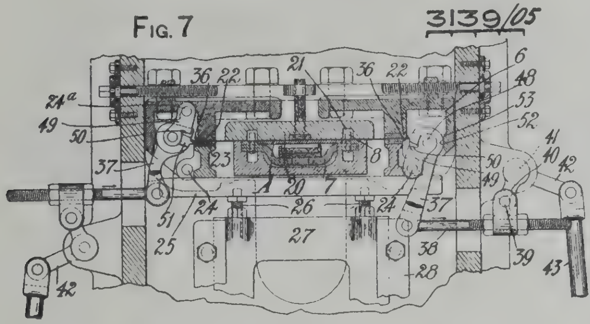


FIG. 12

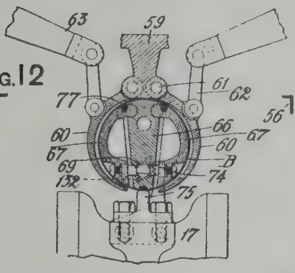
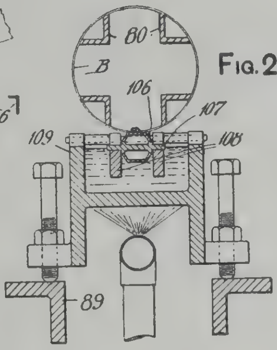


FIG. 25



In the soldering-apparatus, the work support is inside the shells, and has four angle-irons **80**, Fig. 25, connected at intervals by distance-pieces on which at the end adjoining the bending-apparatus, vertical ribs slide in undercut grooves on the mandrel **55**, and prevent rotation and end motion.

Reciprocating feed-bars with spring-dogs advance the shells step by step; and similar dogs on the work-support prevent retrograde movement.

Flux is applied by a felt-covered roller frictionally driven by the moving shell and resting on a roller mounted in spring-borne links in a bath beneath.

Solder is applied by a number of hollow metal rollers **106**, Fig. 25, floating upwardly against the seam in a bath of melted solder; the shell then passes along a gas-heated bar which thoroughly sweats the solder into the joint, and above a brush to remove superfluous solder; the finished shells are ejected.

The work-support **80** is supported at each end on a pair of inclined rollers outside the shell, and under the edges of the lower angle irons.

The various reciprocating movements are derived from a crank-shaft **18**, Fig. 4, by links and box-cams; all the parts are adjustable for various sizes of can bodies; the recessed boss of the driving pulley **103** contains a spring disengagement clutch operated by a treadle.

17 *typed pages*, 17 *claims;* 10 *fols. drgs.*, 25 *figs.*

3140. 10 May. *Comp. lapsed.*

J. JEFFERS, Longwarry, Gippsland, Vic., electoral registrar.

"Invention for capturing rabbits."

Class 38.6.

3141. 10 May. *C.a.P.* 12 Feb., 1906. *Refused.*

W. H. HAMMOND, 104 Moncur-street, Woollahra, N.S.W., contractor.

"Tubular fire bars for steam boilers."

Classes 16.8; 63.2.

3142. 11 May. *C.a.P.* 12 Feb., 1906.

W. C. PRATT, Sunny Corner, *viâ* Rydal, N.S.W., artist.

Sash-lock; spring lever and catch.

Classes 77.1; 78.7.

The spring-closed latch-lever **d** is pivoted on an upstanding bracket **a2** on the lower sash **y**, and overhangs the catch bracket **b** on the rail of the upper sash; the latch **d** is pressed into engagement by the spring **c**, and may be released by the handle **d2**; on closing the window, the cam-face **d4** slides over the hooked end of the catch **b**, and the locking is automatic.

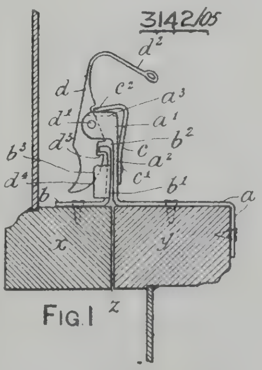


FIG. 1

The overhanging construction prevents the latch being opened by a knife inserted between the sashes at **z**.

Prov. 3 *typed pages.*

Comp. 4 *typed pp.*, 3 *claims;* 1 *fol. drg.*, 3 *figs.*

3143. 11 May. *Prov. only.*

J. M. Ruddick, Caldwell-road, Eaglehawk, Vic., mining engineer.

"Improvements in actuating devices of stamp battery tappets."

Class 10.2.

3144. 11 May. *Prov. only.*

E. W. Parsons, engineer, and R. Babidge, cooper, both of 225 Hindley-street, Adelaide, S.A.

"An improved detonating alarm."

Class 99.6.

3145. 11 May. *Prov. only.*

H. J. Marks, Russell-street, Toowoomba, Qld., architect.

"An apparatus for use in connexion with tanks for catching first flow of water from roofs."

Class 83.1.

3146. 11 May. *C.a.P.* 13 Oct.

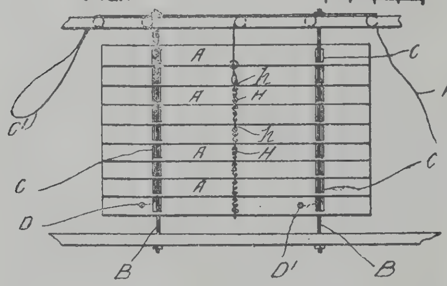
E. V. Jarvis and E. A. Jarvis, both of Turbot-street, Brisbane, Qld., blind manufacturers.

Venetian blinds for verandahs.
Class 45.7.

To prevent venetian blinds in exposed places being closed by wind, they are supported by vertical rods **B** attached to the verandah at top and bottom, and are fitted with ordinary lifting cords **C**^{1} in the same slots as the rods.

Additional suspenders are formed of jack chains attached by rings to the edges of the laths; on one side of the blind, two chains parallel and opposite the rods, are attached to the upper wall plate and to the edges of all the laths; on the other side of the blind, Fig. 1, a central chain is also linked to each lath, but may be raised or lowered to adjust the angle of the laths by an independent cord threaded through the links **h**, and carried to the side over separate pulleys. The ordinary central rollers for the ladder tapes are omitted.

Fig. 1



Prov. 2 *typed pages.*
Comp. 4 *typed pages,* 2 *claims;* 1 *fol. drg.,* 4 *figs.*

3147. 11 May. *Prov. only.*

T. Webb, *act. inv.*, Mathinna, Tas., engineer, and H. W. Channing, *assignee*, 15 Grenville-street, Ballarat, Vic., mechanical engineer.

"Improvements in safety cage mechanism."

Class 59.2.

3148. 11 May. *Prov. only.*

W. F. Newman, *act. inv.*, 31 Arundel-terrace, Forest Lodge, N.S.W., mechanical engineer, and Amy A. Johnston, *assignee*, 15 Wilmot-street, Sydney, N.S.W., widow.

"Improvements in turbines."

Classes 67.1; 67.2.

3149. 12 May. *C.a.P.* 10 Feb., 1906.

J. Jamison, Dunedin, N.Z., inventor.

Equalizing power from tidal storage.
Class 82.4.

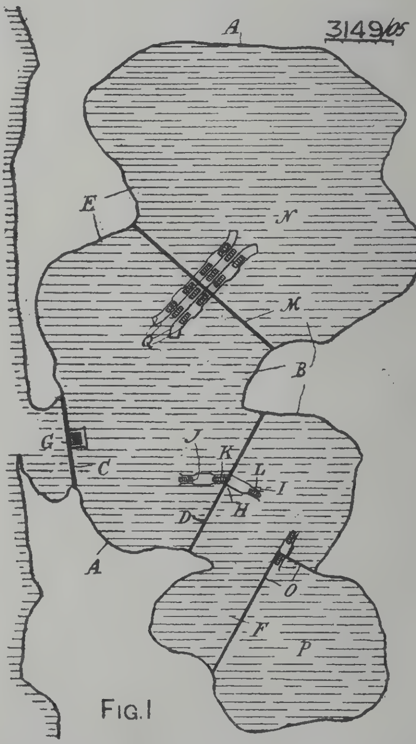


Fig. 1

The tidal bay is enclosed by a main embankment **C** and is divided by an embankment **D** into two main basins **E**, **E** and **F**, whose areas are approximately as three to one; each embankment has sluices and water motors. The main basins may be again divided by banks **M** and **O**.

In operation the tide entering the first basin actuates the wheel **C**; as high tide approaches the water is allowed to flow into the secondary reservoir to actuate the wheels **J**, **K** and **L** while the tide is turning at **C**. Parallel rows of wheels in series may be used as shown at **Q**.

Prov. 4 *typed pages.*

Comp. 6 *typed pages,* 3 *clms.;* 1 *fol. drg.,* 1 *fig.*

3150. 12 May. *C.a.P.* 12 Mar., 1906. W. T. Barker, 35 Bevan-street, Albert Park, Vic., saddler.

Animal rugs; cord fastenings.

Class 39.5.

The back of the rug is strengthened by a piece of leather **B** with three rings **C1** on each side; there are other eyelets on the rug at **D1**; the girth or belly band **G** passes through one of several channels in a leather belly guard **H**, and has rings **F1** at each end.

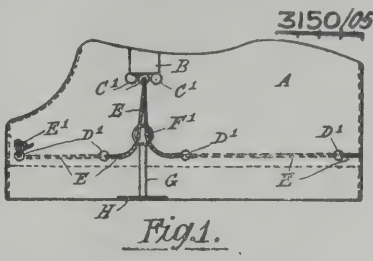


Fig1.

The rug is secured to the animal by means of a single cord **E**, which passes through the rings around the animal as shown in the drawing, and is secured at the throat.

5 *typed pages,* 4 *claims;* 1 *fol. drg.,* 4 *figs.*

3151. 12 May. *Prov. only.*

G. W. Lucy, Cape Town, Cape Colony, S. Africa, theatrical manager, present address c/o Phillips, Ormonde, and Co., 533 Collins-street, Melbourne, Vic.

"Improvements in aerial merry-go-rounds or roundabouts."

Class 53.5.

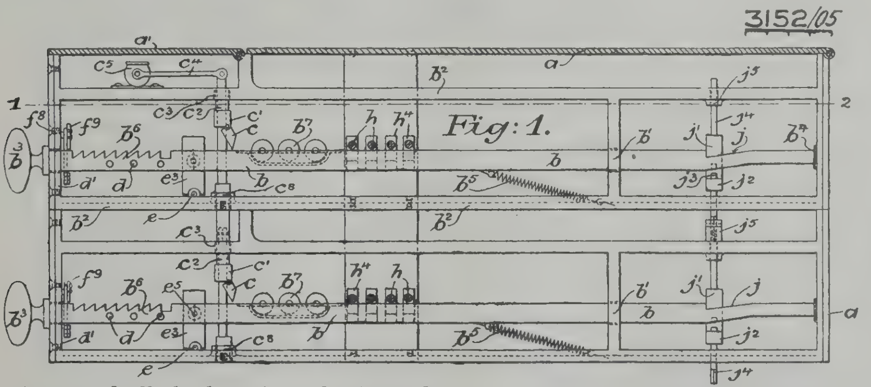
3152. 12 May. G. Stacey, 23 Ventnor-avenue, Perth, W.A., journalist.

Voting machine.

Class 56.2.

In direct or preferential voting-apparatus, bars are pulled out to record the votes, all the bars in one vertical column of the frame being allotted to the same candidate but for different values, and all the bars in a horizontal row to the same value for different candidates. Particular constructions are shown whereby the opening of a door covering the voting-frame is utilized to unlock all the bars and prevent return of a bar when operated, and there are interlocking-means for each horizontal or vertical row.

Fig. 1 shows the apparatus in vertical section. The outward motion of the bars **b** is limited by adjustable pins **d**, according to the number of votes allowed, and one or more of the rollers **b7** lifts the pawl **c** on the rod **c2** and operates the corresponding counter **c5**; detents **f9** prevent the return of the bar until the machine is reset.



Each bar has lateral projections which hold back the transverse spring-operated rods **h**, until one bar is operated, when the other bars **h** slide across and lock all the other bars **b** in the same horizontal row. Similarly, the bars **j4** interlock vertical rows.

The door is connected by links to a rod **e** with teeth which lock all the bars, and also to a rod for releasing the detents **f9**, to permit the return of the bars **b** for the next voter.

10 *printed pages,* 11 *claims;* 3 *fols. drgs.,* 13 *figs.*

3153. 12 May. *Prov. only.*

A. W. Lindblom, Whyte-Yarcowie, S.A., railway packer.

"An improved combined cool safe and water bag."

Class 29.3.

3154. 12 May. *C.a.P.* 12 Jan., 1906.

P. B. Richards, 440 Elizabeth-street, Melbourne, Vic., machinist.

Shower bath with spear pump.
Classes 68.3; 86.1.

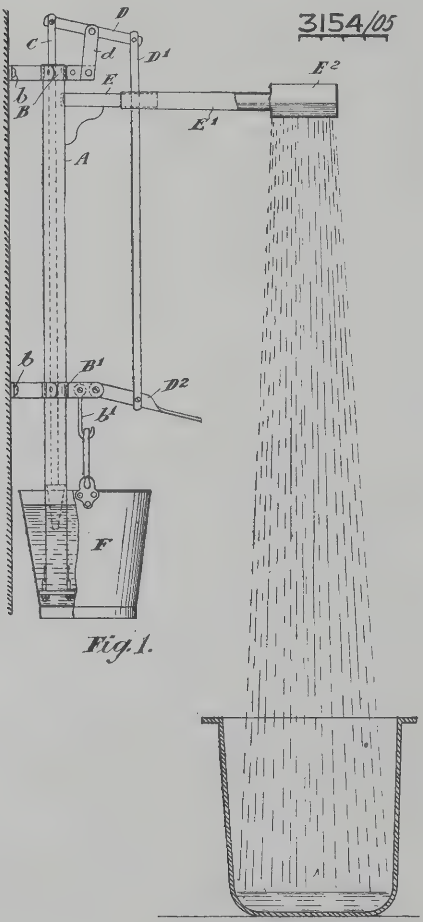


Fig. 1.

The spear pump **A** is fixed to a post or wall by bracket clamps **B**, **B1**, and operated by hand lever **D2** and linkage **D1** to raise water from a bucket **F** on a lower hook, to the elevated spreader **E2** on the upper spout **E**.

Prov. 2 *typed pages.*
Comp. 4 *typed pp.,* 3 *cls.;* 1 *fol. drg.,* 4 *figs.*

3155. 12 May. *Prov. only.*

E. S. Baldwin and H. H. Rayward, trading as Baldwin & Rayward, 71 Lambton Quay, Wellington, N.Z., patent attorneys, *nominees of act. inv.*

"Improvements in the construction of washing utensils."

Class 25.2.

3156. 12 May. *Prov. only.*

M. W. Charlton, 19 Steel-street, Newport, Vic., engineer, and D. E. Chapman, 18 Mirams-street, Ascot Vale, Vic., carpenter.

"An improved grain harvester."

Class 32.3.

3157. 13 May. *Prov. only.*

A. Jones, 417 Liverpool-street, Sydney, N.S.W., licensed plumber.

"An improved flushing cistern."

Class 86.2.

3158. 13 May. *C.a.P.* 5 Dec.

T. W. Fowler, *M.Inst.C.E.*, 408–410 Collins-street, Melbourne, Vic.

Street hydrants and covers.
Classes 74.7; 83.7.

These fire-plug mountings are designed to prevent the ingress of surface water, to give free discharge, and to be conspicuous when exposed above ground.

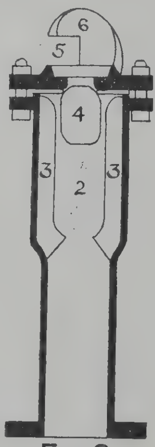


FIG.3

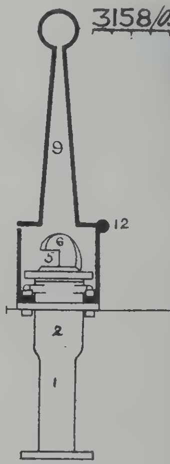


FIG.4

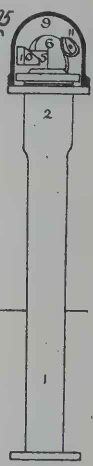


FIG.6

The connecting pipe Fig. 3 has the upper part **2** of larger diameter to give free flow around the float **4**, which moves between guide ribs **3** having bottom projections to prevent the float falling into the main when the pipe is empty.

Covers **9** are provided, which may be entirely removable by lifting off as in Fig. 6, or they may be hinged as shown at **12** in Fig. 4.

The cover for exposed hydrants is fixed at a considerable height above the pavement as in Fig. 6, or has a projection above as in Fig. 4 which is as conspicuous as any street post.

The provisional specification describes disc or spring valves to replace the float **4**.

Prov. 10 *MS. pages.*
Comp. 18 *MS. pp.*, 20 *cls.*; 2 *fols. drgs.*, 9 *figs.*

3159. 15 May. *Prov. only.*

E. PULSFORD, 82 Pitt-street, Sydney, N.S.W., senator (*assignee of* T. GRACE, *act. inv.*, 20 Ivy-street, Darlington, N.S.W., inventor).

"Improved marine propeller applicable also to torpedoes."

Classes 91.6; 92.6.

3160. 15 May. *Prov. abandoned.*

W. HASLAM, 94 George-street, Fitzroy, Vic., engineer.

"Free wheel speed gear for cycles and the like."

Class 94.7.

3161. 15 May. *Prov. only.*

E. H. JULIAN, Elizabeth-street, Malvern, Vic., electrical and mechanical engineer.

"An improved gas turbine."

Classes 66.2; 67.1.

3162. 15 May. *Comp. abandoned.*

R. DUNNE, 5 Commercial Chambers, 24 Manse-street, Dunedin, N.Z., picture-framer.

"Non-refillable bottle."

Class 57.6.

3163. 15 May. *Prov. only.*

J. C. KELLETT, George-street, Moonta, S.A., foreman of fire brigade.

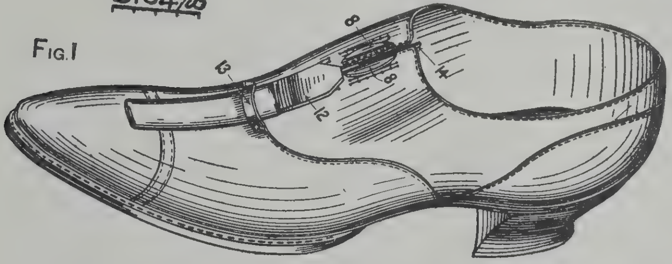
"An improved trace."

Class 39.6.

3164. 15 May. W. M. MALONE, Wandi, Narrabri, N.S.W., journalist.

3164/05

FIG. I



Boot, shoe, or legging fastenings.

Classes 44.1; 44.7.

The edges of boots, &c., are held together by rows of outwardly bent hook slides **8** on the upper, over which a sheet metal keeper **12** with inwardly bent edges may be drawn; a catch **13** prevents the keeper slipping back.

5 *typed pages*, 6 *claims*; 1 *fol. drg.*, 5 *figs.*

3165. 15 May. *Prov. only.*

C. A. JACKSON, 547 Bridge-road, Richmond, Vic., canvasser.

"Machine for making blanks from phonograph and graphophone cylinder records."

Class 01.7.

3166. 15 May. ACETYLENE LAMP COMPANY, 141 Broadway, Manhattan, New York, U.S.A. (*assignees of* C. W. BECK, *act. inv.*, 50 University-place, Manhattan, New York, U.S.A., inventor.

Safety Acetylene Table Lamp.

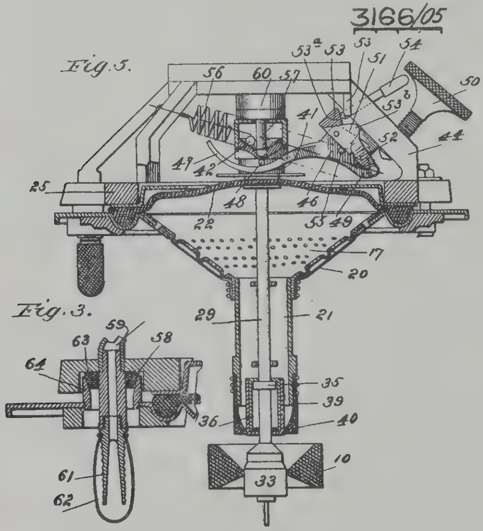
Classes 17.4; 21.89; 22.2; 61.7.

The font or lower vessel of a table lamp holds water, into which powdered carbide is fed from a hopper in an upper division which encloses the feed apparatus in Fig. 5; the hopper and font are connected by a detachable gas tight joint, so that the top part may be removed, inverted, and charged with powdered carbide through the neck valve which is formed by the plug **33** and the rubber ring **10**, which is held between screwed collars at the narrowest part of the neck.

After the hopper and font are reconnected, the plug **33** is depressed, carbide falls through into the water and the pressure of the gas on the rubber diaphragm **22** lifts the plug **33** and stops the feed of carbide.

The gas collects in the carbide hopper and under the diaphragm, and passes to the burner through a filter bag **62**, and a tube at the left of Fig. 5, and past an ordinary diaphragm-and-cone regulator on top of the gallery; the filter bag and its packing connexion is shown in section in Fig. 3, which also shows the edge of the rubber diaphragm, held by the same flanges.

The diaphragm **22**, with the rod **29** and plug **33**, is lifted and manipulated by the forked lever **46**, which is controlled by the hand screw **50**, the trip lever **51**, and fly-over springs **56**; the upward lift of the rod **29** is limited by a stop pin **57** (fixed under the gallery), which works inside a case in a conical cup, in which a loose ball **42** normally lies under the stop and prevents the plug **33** rising so high as in Fig. 5, so that the ring **10** is closed by the upper small end of the plug **33**; if the lamp is accidentally upset the ball falls out of the centre line and the plug **33** is lifted to the position in Fig. 5, where it fills the ring **10** tightly and prevents the water in the font from running into the carbide hopper.



The function of the trip lever **51** (which is pivoted on the forked lever **46**, and carries the spring **56** at its outer end) is to suddenly vary the line of tension across the pivot of **46** to reverse the pressure on the diaphragm, and cause the sudden closing of **33** when the lamp is upset.

To restore normal action, the milled head of the screw **50** is turned to force the pin **54** into contact with lug **53a** on the trip lever, and brings the spring back to the ordinary position, giving a slight downward pressure on the diaphragm, which opposes the gas pressure and lowers the plug **33** to feed the carbide as the gas is used.

When the last carbide falls through and the gas is all exhausted, the valve rod descends still lower, and the upper plug **36** is forced through its rubber nipple **40** and forms a dust proof joint during the recharging of the carbide hopper (surrounding the valve rod guide and shield **21**), which is connected to the upper frame by a perforated diaphragm shield **17** covered with filter cloth **20**.

The gas-tight joint between the carbide vessel and the water-font has a packing ring that is compressed by radial cams on a loose band, which is drawn tight by a toggle lever closure; the packing ring may have a thin edge, which is pressed against the joint by the gas.

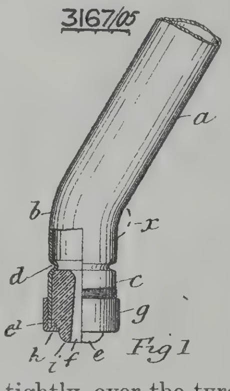
The ring **10** may be held in its place in the neck by screw flanges, or in a modification by an inner lining held up by a bayonet joint with the outer case.

33 *typed pages*, 41 *claims*; 7 *fols. drgs.*, 21 *figs.*

3167. 15 May. F. J. Arthur, North Mooroopna, Vic., orchard labourer.

Tyre pump coupling.

Classes 74.5; 97.85.



The extremity of the pump barrel is bent at an obtuse angle **x** to bring the nozzle parallel to the spokes when the pump is in use.

A rubber gland or plug **i** which fits the tyre nipple tightly by pressure, is attached to the pump barrel by a screw cap **g**, or by screwing into the barrel; the conical bore **f** of the plug **i** is pushed tightly over the tyre nipple and gives a more steady connexion than the usual flexible tube.

4 *typed pages*, 5 *claims*; 1 *fol. drg.*, 3 *figs.*

3168. 16 May. *Prov. only.*

E. R. Kane, 21 Patterson-street, Abbotsford, Vic., ironworker.

"Flower pot holder or hanger."

Class 31.4.

3169. 16 May. *Prov. only.*

H. T. Mercer, 29 Griffith-street, Richmond, Vic., boot salesman.

"A rotary heel for boots and shoes."

Class 44.3.

3170. 16 May. *C.a.P.* 6 June.

K. Lewis, 44 Ferguson-street, Williamstown, Vic., bicycle manufacturer.

Composition for punctured tyres.

Class 97.87.

The ingredients are :—

Gum arabic	12 lbs.
Refined sugar	6 ,,
Carminette or other non-absolvent material	3 ,,
Powdered cork	1 ,,
Resin	24 ,,
Water	6 galls.

The gum arabic, sugar, and water are boiled for three hours; the carminette and resin are melted together till thoroughly mixed, then cooled, ground together and mixed with the powdered cork, and blended thoroughly with the liquid part, to form a mixture of tar-like consistency which is poured hot into the inner tube and spread by rotating the wheel for several minutes.

Prov. 2 *MS. pages.*
Comp. 3 *typed pages,* 1 *claim. No drawing.*

3171. 16 May. *Comp. lapsed.*

R. Hamdorf, T. Ulrich, and W. A. Harrison, all of Esperance, W.A., mechanics.

"Hamdorf's one-man post borer."

Classes 80.3; 81.8.

3172. 16 May. *Prov. only.*

J. N. Barcham, Romsey, Vic., chemist.

"Improvements in card games for mental exercise in the use of monetary percentages."

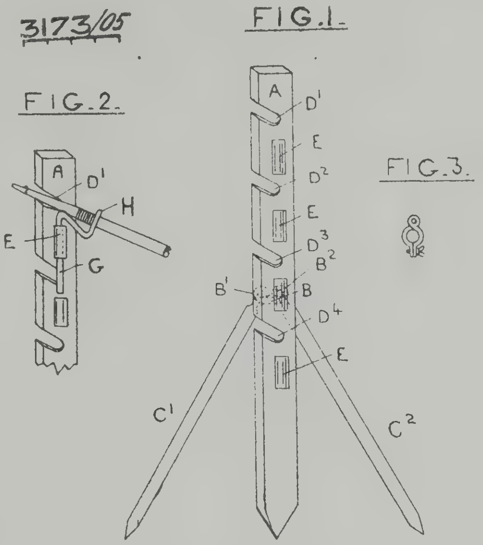
Classes 49.6; 53.8.

3173. 16 May. L. R. Davies-Griffith, Tangambalanga, Kiewa, Vic., stock-holder.

Garden-hose stand.

Class 31.9.

A wooden standard **A**, Fig. 1, has a pointed foot, and two struts **C1**, **C2**; the inclined notches **D1** to **D4** are made by boring a hole and two saw cuts, below each is a socket **E** to hold a bracket **H** by which a hose and jet is supported (as in Fig. 2) at any desired height.



4 *typed pages,* 5 *claims;* 1 *fol. drg.,* 3 *figs.*

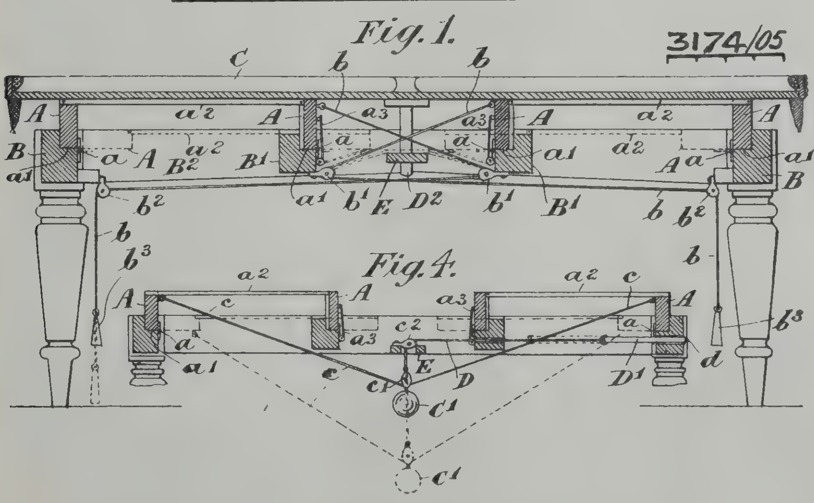
3174. 16 May. *C.a.P.* 16 Feb., 1906.

F. A. Alcock, 212 Russell-street, Melbourne, Vic., manufacturer.

Convertible billiard or dining table.

Classes 45.3; 53.6.

The transverse bearers **A** are hinged to the cross rails **B**, **B1**, connected in pairs by hinged rods **a2**, and partly balanced by wire spring levers **a3**; for billiards, the top is lifted, allowing



the spring levers **a3** to turn up the bearers; to lower the table for dining, the stirrups **b3**, Fig. 1, are depressed, pulling down the bearers to the dotted position so that the table rests on the frame **B**.

Fig. 4 shows a variation in which the cross bearers are pulled down by a weight **C1** which is held up for billiards by a strap **D1** passing through the end rail and hitched on a peg.

Prov. 3 *typed pages.*
Comp. 5 *tpd. pp.*, 5 *claims*; 1 *fol. drg.*, 4 *figs.*

3175. 16 May. *Comp. lapsed.*

A. H. Humphries and A. E. Humphries, both of 5 Kooyongkoot-road, Hawthorn, Vic., commercial travellers.

Oil-tin siphon.

Class 22.4.

The long limb **B** has a spring **G** to clip the side of the tin, and a rubber bulb **C** to exhaust air and cause the oil to rise over the bend **D** into the limb **E**, which has a retaining tap **H** and a flexible nozzle **F**.

3 *typed pages*, 2 *claims*;
1 *fol. drg.*, 1 *fig.*

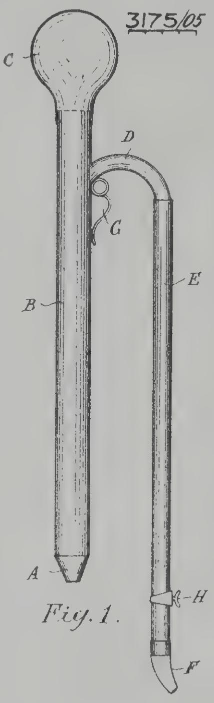


Fig. 1.

3176. 16 May. *Prov. only.*

R. B. Lugg, South Kalgurli Gold Mine, Boulder, W.A., electrician.

"A collapsable former for making dynamo or motor coils."

Class 02.1.

3177. 16 May. *Prov. only.*

J. Style, corner of Ivanhoe and Mellin streets, Boulder, W.A., bricklayer.

"An improved process for treating auriferous slimes or pug."

Class 12.1.

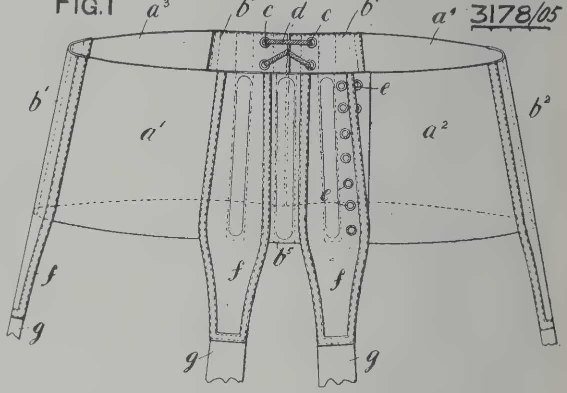
3178. 16 May. Jane P. Hodgkinson, 110 High-street, Oxford-road, Manchester, Eng., married woman.

Ladies' belts.

Classes 43.3; 87.4.

The belt may be worn under the corset, and is less bulky than usual patterns; there are four sections, **a1** to **a4**, of elastic webbing, connected by sections **e**, **f** of fabric stiffened with whalebone, and having attachments **g** for hooking to the stockings to prevent the belt rising.

FIG. 1



6 *typed pages*, 3 *claims*; 2 *fol. drgs.*, 4 *figs.*

3179. 16 May. H. H. Edmonds, Idalia-Longueville, N.S.W., master mariner and instructor in navigation.

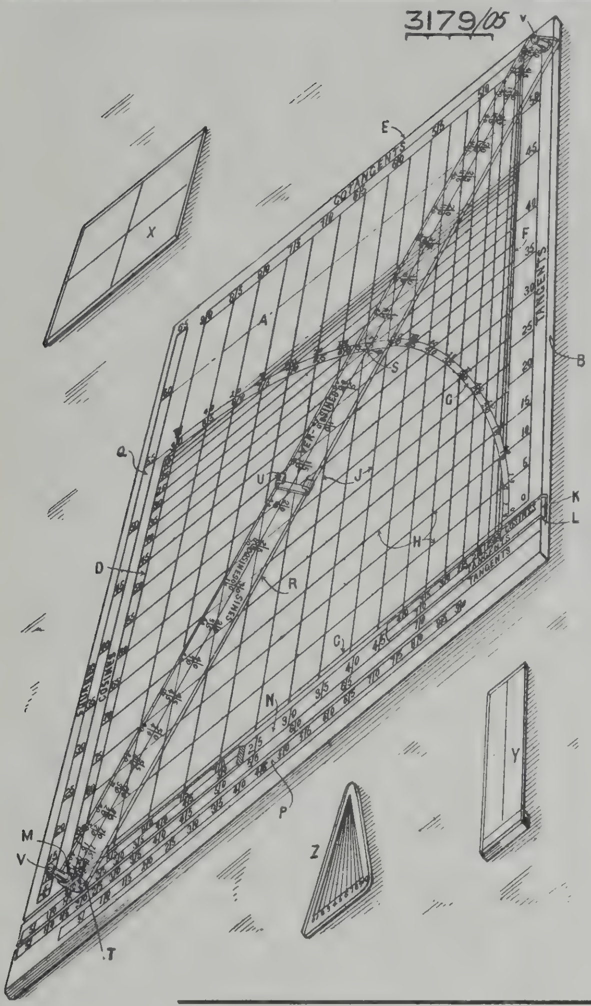
Spheroplane; trigonometric calculator.

Class 00.2.

By means of a plane surface and a movable radius bar, both provided with a number of scales of natural trigonometrical functions, various problems in plane and spherical trigonometry may be solved, the application to nautical astronomy being particularly described.

The surface **A** is of metal or celluloid and rectangular form, with a square marked upon it and divided up by lines **H**, **J** which start from natural cosine graduations along the base and left side **C**, **D**, the vertical lines being produced to meet the upper edge **E**.

With radius equal to the side of the square and centre at the lower left corner an arc **G** is struck and graduated in time and arc. Other scales are:—Squares of numbers **Q**, cotangents **E**, tangents **F**, cosines and tangents upon the sliding piece **K**, and sines **N** beneath it, a parallel fixed scale of tangents, and a uniform scale **P**, of which the unit is conveniently 0·3056 inch, to suit the ex-meridian problem.



The radius **R** is of celluloid or other transparent material graduated upon its lower surface, and readings are taken along the median line. It has two centres **S**, **T** of motion and graduation, one or the other of which is placed over the peg **M**, and two handles **V**, and bears scales of sines, cosines, and versines.

The accessories include a marker **U** for the radius, and three transparent plates **X**, **Y**, **Z**, of use respectively as an intersection marker, a means for carrying on graduations from an edge, and a proportional-part instrument. Examples are given of the application to the following problems:—Azimuth at rising or greatest elongation, altitude azimuth, time azimuth, ex-meridian, hour angle at rising, hour angle from altitude.

27 typed pages, 4 claims; 1 fol. drg., 1 fig.

3180. 16 May. *Prov. only.*

W. H. HARRISON, Rhodes-avenue, North Sydney, N.S.W., gentleman.

"An electric massage roller."

Class 87.8.

3181. 16 May. *Prov. only.*

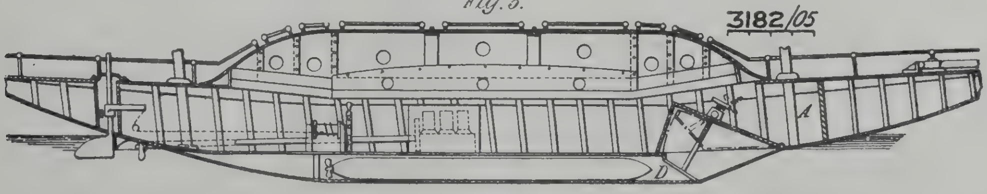
R. BROWNE, Willow-street, Elsternwick, Vic., carpenter, and F. GROVES, Point Nepean-road, Mordialloc, Vic., plumber.

"Improvements in automatic door closers."

Class 78.8.

3182. 17 May. A. N. WHITNEY, Melbourne Club, Melbourne, Vic., certificated marine captain and engineer, ammunition manufacturer.

Fig. 3.



Half-decked torpedo boats; hoods, keel tubes, &c.

Classes 89.6; 91.4; 91.6.

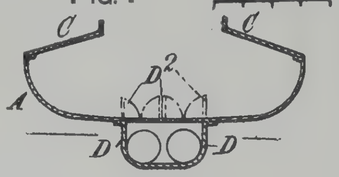
Small and shallow-draught boats, including life-boats, torpedo boats, and small war-ships, which have part of their interior uncovered, are provided with a removable hood or cover, which may also serve as an awning. The hood **B** is built up in a number of sections, secured to each other and to the decks or coaming by ordinary methods.

Various modifications of the hood are shown and described.

Adjustable brackets may also be fitted so that the head room may be varied; and, when the boat is used as a torpedo boat, a portable conning-tower is fitted.

A hollow keel **D** is fitted for discharging torpedoes; it is provided at its outer end with a water-tight hinged port, operated by a screw, as shown; this keel may also be used as a tank.

FIG. 7 3182/05



8 typed pages, 5 claims; 2 fols. drgs., 12 figs.

3183. 17 May. *C.a.P.* 16 Feb., 1906.

H. Salomo, 278 Little Lonsdale-street, Melbourne, Vic., engineer.

Bevel-geared Lifting Jack.

Class 59.1.

Jacks for general lifting (also applicable for music stools, furniture or floor cramps, &c.) have a screwed lifting bar **E** squared on top of the thread; the bar is lifted by one of a pair of bevel wheels **D**; the other bevel wheel has an adjustable handle **J**, which slides in the boss **F** and is secured by the set screw; the case is made of two castings forming shrouding for the bevel gear, and guides for the lifting bar; a bow-handle **B1** may be attached.

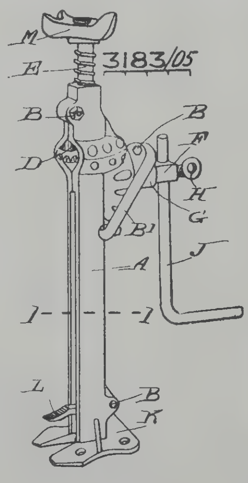


Fig. 2.

A modification has three legs bolted to the case, a roller on the top of the lifting bar, and a hook for stumps, &c., at the lower end.

Prov. 6 *typed pages.*
Comp. 7 *typed pages, 2 claims; 1 fol. drg., 5 figs.*

3184. 17 May. *Prov. only.*

Fred Alderson and Co. Ltd., Bulletin-lane, Sydney, N.S.W., and 531A Collins-street, Melbourne, Vic., leather, hide, and skin brokers (*communicatees of* The Vaughn Machine Co., Peabody, Mass., U.S.A., manufacturers of hide and leather working machinery, *assignees of* F. Wayland, *act. inv.*, Salem, Mass., U.S.A., inventor).

"An improved attachment for machines for treating skins, hides, or the like."

Class 47.3.

3185. 17 May. G. Schultz, professor at Technical University, and F. Gehre, engineer, both of Munich, Bavaria, Germany.

Explosives.

Class 89.8.

The explosive contains bi-nitro and tri-nitro derivatives of mesitylene and pseudocumol, intimately mixed with powdered iron and copper (which are found to be as effective as the more expensive metals Mg and Al), and also with an oxygen carrier such as ammonium nitrate.

The same derivatives of mesitylene and pseudocumol may be used with nitro-cellulose for smokeless powder.

4 typed pages, 14 claims. No drawing.

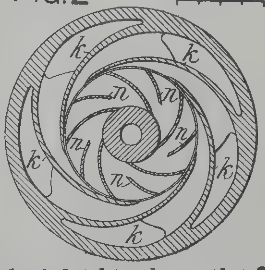
3186. 17 May. E. Hopkinson and A. E. L. Chorlton, both of Salford Iron Works, Salford, Manchester, Lancashire, Eng., engineers.

Multi-stage pumps and turbines.

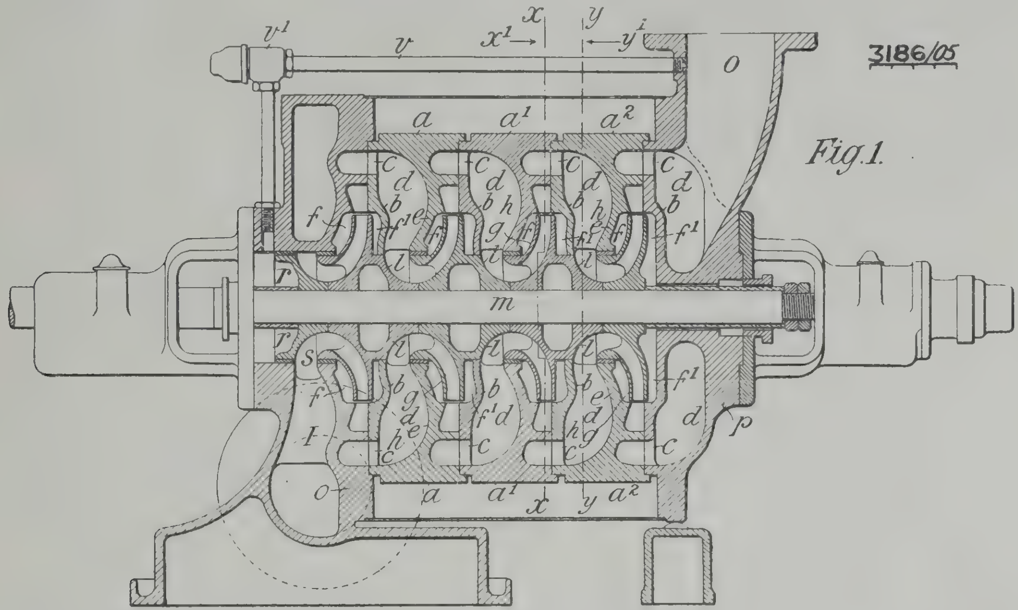
Classes 67.2; 67.4; 68.7.

In multi-stage centrifugal pumps or turbines following G.B. 13,578/94, a number of vane wheels **g**, Figs. 1 and 2, having shrouded curved vanes **n** are mounted on a shaft **m**; spiral guide passages **k** are formed in the end walls **o** and partitions **a**, so that the water has a flow unchecked by sudden corners from the inlet **I** to the outlet **O**. End pressure on the shaft is partly or wholly balanced by admitting

FIG. 2 3186/05



the outlet pressure through a pipe **v** (with throttle valve **v1**) to a chamber containing a balance piston **r** of the same diameter as the small ends of the runners.



A single runner may be used, and its shaft is fitted with a stuffing-box substitute on the high pressure side, consisting of a collar (outside the bearing), which is pressed against the end of the bearing by the unbalanced portion of the end pressure; the connecting tube may be replaced by a perforation in the disc of the impeller.

9 *litho. pages*, 6 *claims*; 4 *fols. drgs.*, 8 *figs.*

3187. 17 May. *Prov. only.*

P. Nunn, Tungamah, Vic., farmer.

"Improvements in attachments for removing clay and the like from the hoes of grain drills."

Class 31.1.

3188. 17 May. *C.a.P.* 16 Mar., 1906.

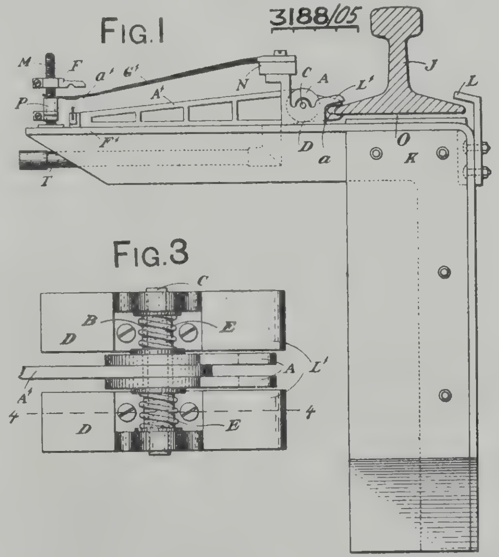
J. F. Dineen, La Trobe-terrace, Geelong, Vic., gentleman.

Rail circuit contact.

Classes 04.3; 98.2; 99.2.

The depression of a rail by a passing train is magnified by a lever pivoted to a frame on a foundation independent of the sleepers; the arms of the lever are jointed at the fulcrum and held together frictionally by means of springs **E** on the pin **C**; the forked shorter arm **a** engages the flange of the rail **J**, and the longer arm **A1** carries an elastic contact **a1**, above which is a long spring arm **C1** on the frame bracket **N**; the amount of movement of **C1** is limited between the stops **P** and **F** on the screwed standard **M** on the frame.

A small clearance **O** is allowed between the rail **J** and the frame, which is also depressed when a heavy train passes, but further depression does not affect the long arm of the lever owing to its frictional connexion to the short arm. After the passage of heavy trains the frame is raised to normal position by rail **J** engaging the bracket **L**.



In a modification the lever is made in one piece, the stops **F** and **P** are omitted, and the frame may be guided in a buried pedestal.

Prov. *3 written pages.*
Comp. 7 typed pages, 8 clms.; 2 fol. drgs., 7 figs.

3189. 17 May. *Prov. only.*

J. R. Henderson, 2 Huntford-street, Fitzroy, Vic., driver.

"An improved lifting jack."

Class 59.1.

3190. 18 May. *Prov. only.*

A. M. Nelson, 35 Bowen-street, East Melbourne, Vic., caretaker.

"An advertising embossed postage stamped letter envelope."

Classes 49.3; 54.1.

3191. 18 May. *Prov. only.*

A. M. Nelson, 35 Bowen-street, East Melbourne, Vic., caretaker.

"An advertising embossed postage stamped post card."

Classes 49.3; 54.1.

3192. 18 May. *C.a.P.* 12 Feb., 1906.

J. R. Hatmaker, 25 Rue de la Faisanderie, Paris, France, gentleman.

Film-dried meat or fish pastes.
Classes 35.3; 35.4.

The meat, fish, &c., are ground to a finely divided pulp, and are then dried in a thin film upon rollers heated above 212° F. A light, fluffy, preservable product is obtained.

Prov. *2 typed pages.*
Comp. *4 typed pages, 3 claims.* *No drawing.*

3193. 18 May. *C.a.P.* 12 Feb., 1906.

J. R. Hatmaker, 25 Rue de la Faisanderie, Paris, France, gentleman.

Film-dried blood foods.
Classes 35.4; 37.1.

Blood or fluid extracts of meat are dried between oppositely revolving cylinders heated above 212° F. The blood is removed from the cylinders by a stripping knife in a light, flaky form.

Blood may be mixed with molasses and the mixture dried to form a conservable food for animals.

Prov. *1 typed page.*
Comp. 4 typed pages, 3 claims. *No drawing.*

3194. 18 May. J. R. Hatmaker, 25 Rue de la Faisanderie, Paris, France, gentleman.

Milk powder.
Class 36.4.

Skimmed or separated milk is emulsified with oleo-fat, cotton seed, or other suitable vegetable oil, and the emulsion is film-dried in the form of a powder as described in Vic. 20,453/03. Flavouring may be added.

3 typed pages; 6 claims. *No drawing.*

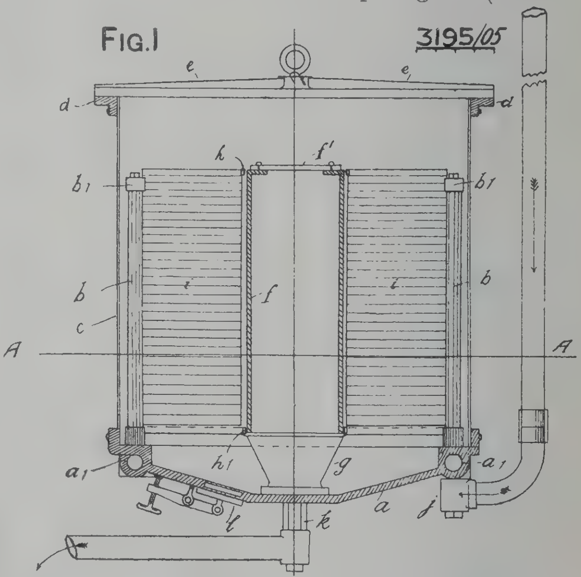
3195. 18 May. *C.a.P.* 15 Feb., 1906.

J. R. Paddle, 159 Queen-street, Brisbane, Qld., sugar mill manager.

Sand filter; radial flow.
Classes 28.1; 33.1.

A cylindrical vessel **c** has a cast iron bed plate **a** with an annular inlet passage **a1** (fed by the pipe **j**), into which a circle of vertical perforated copper pipes **b** with closed top ends are fitted; **f** is a central collecting channel covered with perforated copper, connected to the outlet **k** by the cone **g**; the annular sand space between **f** and **h** is divided into segments by radiating corrugated metal sheets **i** attached to rings **h** and **h1**; **l** is a clearing door.

Fig. 1



The filter is charged with sand to a few inches above the central pipe **f** and corrugated sheets **i**, the liquid is fed by gravitation or pressure through the inlet **j**, and passes radially to the outlet between the corrugated partitions, which steady the sand and prevent pitting; before discharging the clogged sand hot wash water may be passed by the same pipe **j**.

Prov. 5 *typed pages.*
Comp. 5 *typed pages*, 4 *clms.*; 1 *fol. drg.*, 2 *figs.*

3196. 18 May. *Prov. only.*

J. M. S. CURRAN, Waranga Outlet, near Rushworth, Vic., miner.

"An improved steamless motor."

Classes 60.7; 62.1.

3197. 18 May. *Prov. only.*

J. M. S. CURRAN, Waranga Outlet, near Rushworth, Vic., miner.

"An improved gold-saving apparatus."

Class 12.1.

3198. 18 May. A. E. COKER, Timaru, Canterbury, N.Z., labourer (*assignee of* W. G. COKER, *act. inv.*, Timaru, Canterbury, N.Z.).

Depilating sheep skins.

Class 47.2.

The skins or pieces are steeped for 24 hours in a solution of caustic soda, containing 6 lbs. caustic soda in 100 gals. of water. They are then taken out and drained and the wool pulled off in the ordinary way.

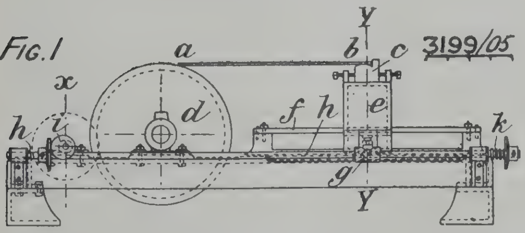
2 *typed pages*, 1 *claim*. *No drawing.*

3199. 19 May. A. KAISER, 496 to 504 Harris-street, Sydney, N.S.W., merchant (*communicatee of* G. SCHWARZ, *act. inv.*, Furth, Bavaria, Germany).

Glass bevelling machine.

Classes 19.6; 75.3.

FIG. 1



The glass plate **a**, **b** rests freely with the edge **a** (to be bevelled) against the wheel **d** and the other edge **b** on the rest **c** in a support **e**; the support is moved backward and forward from the wheel against the springs **k** (by means of eccentrics **i** or cams) to prevent hollow-grinding on the bevel.

By using grinding wheels of special diameter, ogee or moulded edges may be ground. The springs **k** may be replaced by weighted levers.

4 *typed pages*, 1 *claim*; 2 *fols. drgs.*, 9 *figs.*

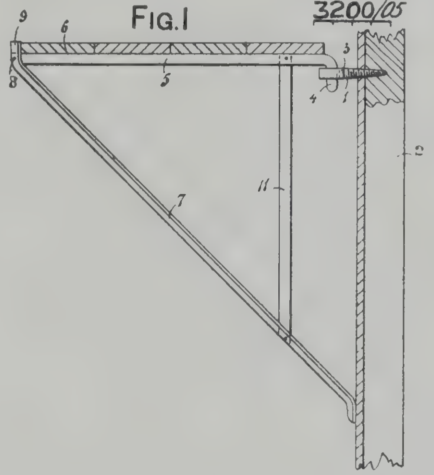
3200. 19 May. G. E. HUMPHRIES, 61 Adelaide-road, Wellington, N.Z., building contractor.

Temporary scaffold brackets.

Class 81.3.

To support plank stages for external painting and like repairs to wooden buildings, screw eyes **3** are fixed in the studs, and triangular brackets **5**, **7**, **11** of rolled iron are hooked therein; the hook **4** and the screw eye are square to prevent swinging; the foot of the truss may have a notch to rest on a spike also driven in the stud.

FIG. 1



3 *typed pages*, 2 *claims*; 1 *fol. drg.*, 4 *figs.*

3201. 19 May. *C.a.P.* 12 Jan., 1906.

W. W. VIRTUE, 85 Pitt-street, Sydney, N.S.W., engineer.

Adjustments for shearing machines.

Class 37.6.

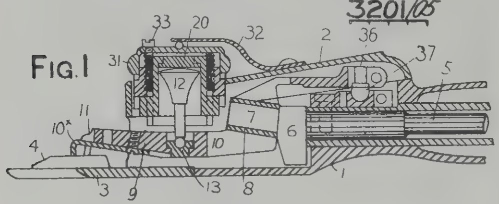
In machines of the type illustrated, the adjustments are modified.

The ball pin **36** and its fulcrum socket are easily changed after slackening the horizontal screws, which respectively tighten the slotted end of the lever **9**, and the slotted foot-step above the crank bearing.

The strut or rocker **12** rolls under the renewable hardened plate **20** fitted in the top of a sleeve or thimble with side lugs at its lower end to prevent its rotation in a tubular guide on a fixed bridge; the outside of the tubular guide is screwed and has a notched top edge; on this a nut is screwed which is turned by a cover-cap **31** having slots that engage lugs on the nut; the cap is held against accidental turning by the pin **33**, which may be set in any notch in the usual manner.

3201/05

FIG. I



The drawings with the provisional specification show variations in detail.

Prov. 3 *typed pages;* 3 *fols. drgs.*, 16 *figs.*
Comp. 7 *typed pp.*, 4 *claims;* 1 *fol. drg.*, 11 *figs.*

3202. 19 May. *Prov. only.*

E. P. Thurstan, 354 St. George's-terrace, Perth, W.A., medical practitioner.

> "An attachment to vehicles to prevent their wheels sinking into sand or loose earth."

Class 93.5.

3203. 19 May. P. B. Richards, 440 Elizabeth-street, Melbourne, Vic., machinist.

Wire strainer; T-winder and single dog.

Class 58.3.

The plate **a** has a horn **d** on the underside on which the looped end of one wire is hitched; the other wire is passed through the loop and wound by a roller **k** (with a T-handle) which rests under the brackets **b** while being wound; a scroll-hitch **h** steadies the frame on the wire during winding; when sufficiently tight the dog **e** is closed, after which the wire on the roller may be unwound and tied as desired.

3203/05

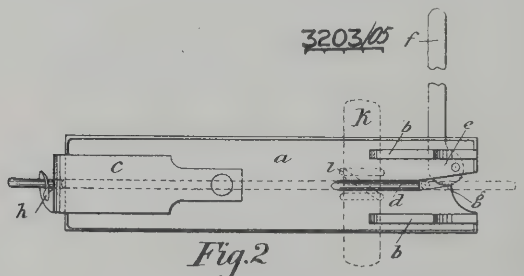


Fig. 2

When used against a post, the usual tapered spike may be used instead of the dog **e**.

4 *typed pages,* 3 *claims;* 1 *fol. drg.*, 4 *figs.*

3204. 19 May. *Prov. only.*

W. J. Howcroft, 225 Elizabeth-street, Brisbane, Qld., galvanized iron worker.

> "A new method of compressed air and water power adaptable to any lift, elevator, crane, or other kinds of machinery."

Classes 59.2; 62.5.

3205. 19 May. *C.a.P.* 19 Feb., 1906.

R. K. Catt, district superintendent Metropolitan Fire Brigade, Hoddle-street, Abbotsford, Vic.

Fireman's mask and appliances.

Class 88.1.

A metal basin-like mask **A**, having its rim guarded by a pneumatic pad or cushion **B** which fits the face, is held on by straps **E** and **F**; at the front of the mask is a mica-glazed sight-hole, and at **A2** an expiration valve is mounted; the compressed air cylinder **C** is divided into two compartments **c** and **c1** independently connected to the mask by small pipes **c4**; one compartment with about one-fourth of the total volume is used as a reserve chamber; each compartment has a charging valve **c3** for connexion to a cycle pump, and the larger chamber has a pressure gauge **D**.

3205/05

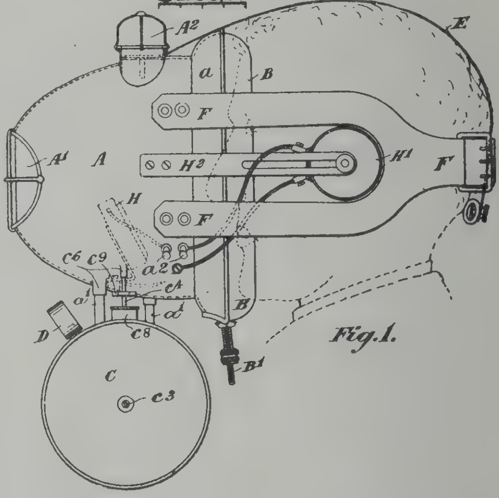


Fig. 1.

The air is admitted to the mask by plug taps **c8** (with handles **c9**), each having three passages of graduated size, either of which may be used as desired; separate taps are fitted to each compartment.

A telephone transmitter **H** may be mounted inside the mask, the receiver **H1** being supported against the ear by a spring arm **H2** outside the mask.

Prov. 3 *typed pages.*

Comp. 5 *typed pp.*, 4 *claims;* 1 *fol. drg.*, 5 *figs.*

3206. 20 May. *C.a.P.* 26 Sept.

V. C. J. Nightingall, 265A Post Office-place, Melbourne, Vic., electrical engineer.

Street lighting, &c.; polarized magnetic valve.

Classes 06.7; 20.8; 22.8; 23.5.

The main gas supply to the burner (or group of burners) has a valve **C2** which is closed by the weight of an iron disc **C3** hung by a rod **C1** passing inside a tubular iron core **A** with winding **H**; outside the chamber containing the disc **C3**, is one limb of a permanent magnet **F**, the other limb being bent upwards alongside the solenoid; the ignition may be a by-pass tube and pilot light, or a platinum catalytic igniter **M** may be fixed on the rod in the same position **M** as the pilot light, and partially heated by the current.

To open the valve and light the lamp, current is sent through the magnet in such a direction that the residual magnetism induced in **A** by the permanent magnetism of **F**, will hold up the disc **C3** after the current is turned off; a momentary reverse current insufficient to reverse the polarity of **F** will cause the valve to fall.

3206/05

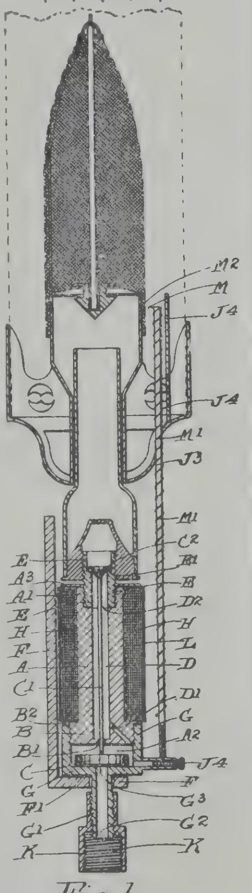


Fig. 1.

Alternatively, the magnet **F** and reversing switch may be omitted, but the current must be maintained all the time the gas is turned-up.

Prov. 6 *typed pages.*

Comp. 7 *letterpress pp.*, 5 *claims;* 1 *fol. drg.*, 4 *figs.*

3207. 20 May. *Prov. only.*

H. Urban, 343 Hotham-street, Elsternwick, Vic., engineer.

"Safety tube for rifle practice."

Class 89.5.

3208. 22 May. *Prov. only.*

G. Coleman, 366 Elizabeth-street, Hobart, Tas., gentleman.

"Improvements in grid-irons and frying pans."

Class 24.7.

3209. 22 May. *Prov. only.*

H. J. Marks, Russell-street, Toowoomba, Qld., architect.

"Improvements in folding chairs."

Class 45.1.

3210. 22 May. J. Bowring, 24 Bellott-street, Cheetham Hill, Manchester, Eng., engineer.

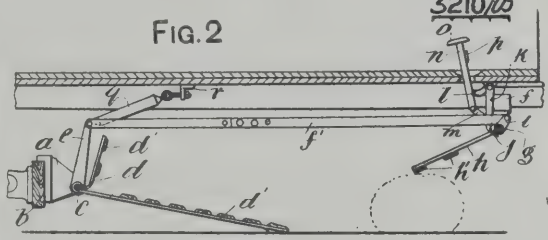
Obstruction lifter for tramcars.

Classes 88.9; 96.2.

In Fig. 2, the car (moving to the right) is about to pick up the obstruction shown in dotted lines; the obstruction has collided with the gate **h** (which is normally vertical), the swing of which has tripped the catch **p** and allowed the tray **d1** to fall to the inclined position shown, so that the obstruction passes on to the tray; the fall of the tray is accelerated by the spring **q**; the apparatus is restored to normal position by pressing down the pedal **o** until **p** catches under the platform.

FIG. 2

3210/05



4 *typed pages,* 2 *claims;* 2 *fols. drgs.* 4 *figs.*

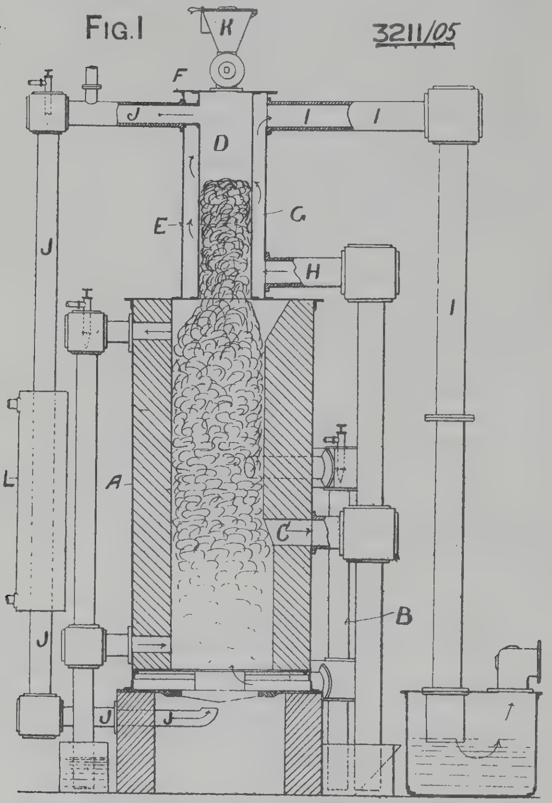
3211. 22 May. C. Whitfield, Anglezarke, Kettering, Northamptonshire, Eng., engineer.

Fuel gas from peat.

Classes 16.30; 17.5; 21.2.

The peat fed from the hopper **K** is dried in the jacketed retort **D**, the vapours being driven by a jet of air down the pipe **J** and delivered under the grate bars; surplus water is separated by the condenser **L**.

FIG. I



The gas from the top of the producer chamber is forced by a jet down the pipe **A** to the combustion zone; the hot fuel-gas passes from **C** by the pipe **H** around the hot-gas jacket **C** to the scrubber and storage.

6 *typed pages*, 6 *claims*; 1 *fol. drg.*, 1 *fig.*

3212. 22 May. L. P. Ey, Dimboola, Vic., saddler.

Metal framed horse collars.

Class 39.6.

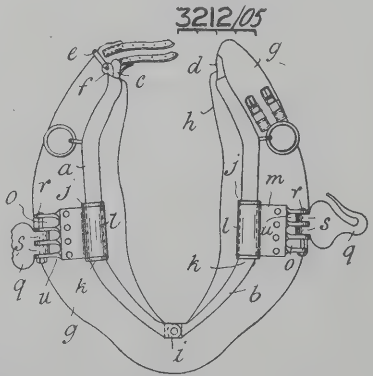


Fig.1.

The hame tubes (or forewales) **a**, **b** are hinged with limited play at **i**, and connected at the top by a latch loop **e**; a suitable collar body **g** is attached to the tubes and padded as usual; the lugs **m** swivel on the tubes and have several eyes **u** formed by twisting the fingers of comb plates riveted to the lugs, so that the hooks **q** may be at any desired elevation.

Prov. 1 *typed page.*
Comp. 5 *typ. pages*, 4 *claims*; 1 *fol. drg.*, 4 *figs.*

3213. 22 May. E. Phillips, 533 Collins-street Melbourne, Vic., patent attorney (*communicatee of* Universal Milk Powder Company Limited, 7 Crosby-square, Bishopsgate-street within, London E.C., Eng., *assignees of* A. Glas, *act. inv.*, merchant, M. Riegel, *act. inv.*, chemist, and G. Kunick, *act. inv.*, merchant, all of 7 Crosby-square, London, Eng.).

Milk Powder.

Class 36.4.

To pulverize the fat globules better than by pressure spraying, the milk is treated in a centrifugal separator which separates the large globules as cream and leaves the fine particles of fat in the milk; the separated milk may contain 50–75% of its original fat. The cream which contains the remainder of the fat is again homogenized by pressure spraying and again centrifugalized, either alone or with a fresh quantity of milk. A product is ultimately obtained which contains the original quantity of fat in a finely divided state, and it is then dried to powder by any known apparatus.

To obtain complete resolution of the casein in the milk powder on mixing with water, calcium saccharate (or other calcium compound of the higher alcohols, &c.) is added sufficient to restore the lime salts to the proportion originally present in the milk; the lime in this form prevents the caramelization resulting from even a slight excess of free lime.

10 *typed pages*, 6 *claims*. *No drawing.*

3214. 22 May. *Prov. only.*
F. Rodriguez, Broome, W.A., master pearler.

"Improvements in diving dresses."

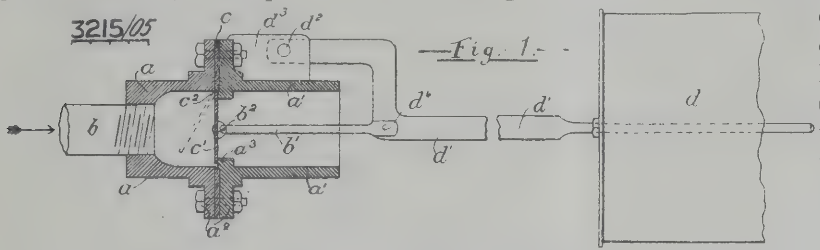
Class 82.8.

3215. 22 May. J. Futcher, Burt-street, Cottesloe, W.A., windmill expert.

Float-operated clack-valve.

Class 74.8.

An ordinary leather washer-clack, having the clack hinge and collar cut from the same piece of leather, is clamped between the flanges of a screwed socket **a** on the supply pipe **b**, and of a nozzle **a1**; the centre of the clack is hinged to the bent lever **d1**, and is opened by the fall of the float **d** in usual manner.



Prov. 3 *typed pages; 1 fol. drg.,* 2 *figs.*

Comp. 3 *typed pages,* 2 *claims; 1 fol. drg.,* 2 *figs.*

3216. 22 May. *Prov. only.*

A. DEAN, Kirupp, W.A., engineer.

"Safety grip appliance for cages or hoists."

Class 59.2.

3217. 22 May. *Prov. only.*

A. A. STEPHENSON, Perth, W.A., gas engineer.

"Incandescent light attachment for burners of primus stoves."

Classes 23.3; 23.5.

3218. 22 May. *C.a.P.* 20 Mar., 1906.

J. P. CAMPBELL, blacksmith, J. C. COATES, wheelwright, and E. EDWARDS, engineer, all of Cue, W.A.

Spiral wedge for stamper cams.

Classes 10.2; 62.8.

A stamper cam **a**, **b** is divided diametrically, fitted with dowels **c**, and clamped on the shaft by a ring **c1** and cotter wedges **c2**.

One side of the hub has a spiral recess in which a self-tightening wedge-key, pinned to the shaft by a dowel, tightens the clamp by the working drag; the wedge has flanges to hold the hub laterally.

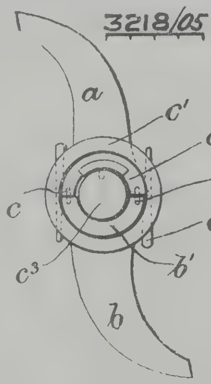


Fig:1.

Prov. 3 *typed pages.*

Comp. 3 *typed pages,* 3 *claims; 1 fol. drg.,* 3 *figs.*

3219. 22 May. *Prov. only.*

E. C. DRIFFIELD, Mount Lyell, Tas., civil engineer.

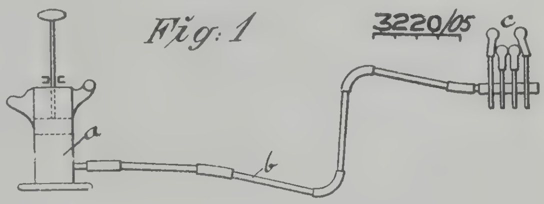
"An improved method of and means for putting up or enveloping alcoholic liquids."

Classes 19.6; 57.6.

3220. 22 May. G. LJUNGSTROM, 31 Banergatan, Stockholm, Sweden, engineer.

Milking machine airpipes.

Classes 36.1; 65.4.



Flexible pipes for milking machines, in which the pulsation is transmitted directly from a hand pump **a**, have air pipes made up of metal sections **b**, connected by short pieces of flexible rubber tube; the object is to reduce the loss of pulse due to the elasticity in capacity of long lengths of rubber tube, even if they have canvas insertion.

4 *typed pages,* 2 *claims; 1 fol. drg.,* 2 *figs.*

3221. 22 May. *Prov. only.*

W. B. LUCKE, Buninyong, Vic., blacksmith.

"An improvement in plate metal plough shares."

Class 30.3.

3222. 22 May. F. KLEPETKO, Great Falls, Cascade, Mon., U.S.A., consulting engineer.

Water cooled rabble arms.

Classes 16.4; 16.5; 16.7.

In roasting furnaces of the McDougall type having superimposed hearths **h**, material is transferred by rotating rabble arms **4** with reversed ploughs **5**, successively through central and marginal openings **1** and **2** to the hopper **C**. To establish more effective circulation of the cooling water the constructions in U.S.A. 700,339/*02* and 733,658/*03* are modified.

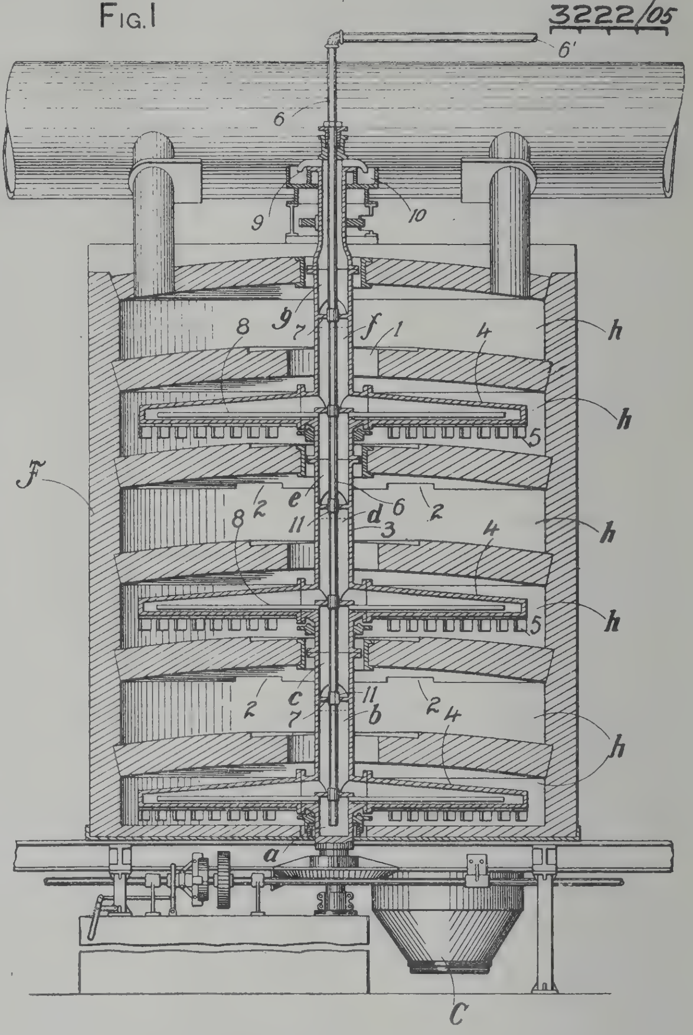
The hollow rotating shaft **3** is divided, by horizontal partitions **7** cast in the pipe, into sections **a**, **b**, **c**, **d**, **e**, **f**, **g** for each hearth.

Each pair of arms **4** on the rabble shaft have relatively small pipes **8**, connected to the section below, which convey the water to the extreme end of the rabble arm and back to the next section above, and so on in series to the top, all the water passing through the arms in each hearth in succession.

Several methods of connexion are described; the water may be introduced by a stuffing-box at the bottom; or a non-rotating water feed pipe **6** may pass through each partition **7** across the hollow shaft, a turned collar **11** being placed around the pipe and neatly fitting the bored hole in the partition to reduce leakage. This fixed pipe may enter either from the top, as in Fig. 1, or conversely from the bottom, in either case being carried through all the partitions so that the water returns in the opposite direction to the discharge bibs **9** and falls into the annular trough **10**.

7 *typed pages*, 5 *claims*; 2 *fols. drgs.*, 6 *figs.*

Fig. I



3223. 22 May. G. S. Duncan, Temple-court, Melbourne, Vic., engineer,

Application under Sec. 7—

Vic. ...	... 15,292 ...	21st June, 1898
N.S.W.	... 8451 ...	22nd June, 1898
S.A. ...	...5444/4063...	22nd June, 1898
Tas. ...	... 2192 . .	23rd June, 1898
Qld. .	... 4462 ...	24th June, 1898
W.A....	... 2116 ...	29th June, 1898

Displacement leaching vats, &c.
Class 14.7.

The leaching vat **B** has any ordinary stirring devices **E**, and radial baffles **D**, which do not touch the sides of the vat; the liquors are introduced from an elevated vat **A** by numerous pipes **C** entering the vat at different parts of the bottom through inlet apertures each covered by a flat hood **H** to spread the liquor as nearly as possible in a uniform film.

The vat **A** may be filled with liquor of various strength or wash water, but in each case as the head in **A** diminishes by use, the pressures at **H** are maintained constant by the funnel heads **c1** under the cocks **c2**.

The vat **B** having been filled with liquor, the ore-pulp is fed in during stirring; when the action is complete the vat is settled until a film of clear liquor forms; then half-strength liquor is slowly run in from **A** and the clear part is displaced by quiet overflow; finally wash water is pumped into **A** and similarly passed through the vat **B** to displace the weak liquor. If any tendency to pack at the bottom is noticed, intermittent stirring may be used. The washed pulp is run off into a settling dam.

8 *typed pages*, 5 *claims*; 1 *fol. drg.*, 2 *figs.*

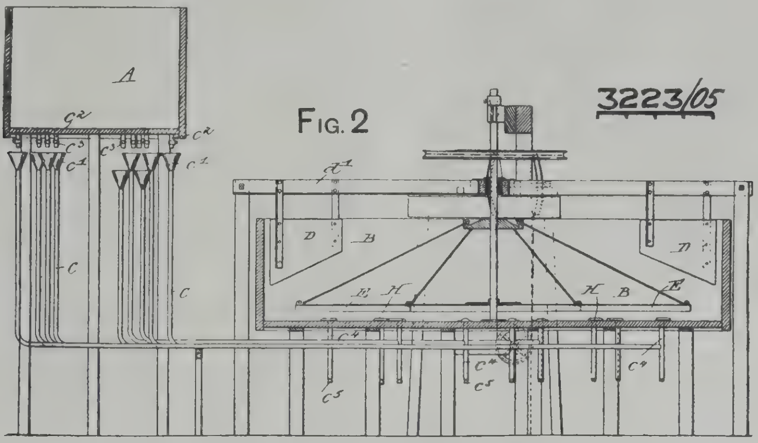


FIG. 2

3223/05

3224. 22 May. S. L. Hague, Salt Lake City, Utah, U.S.A., gentleman.

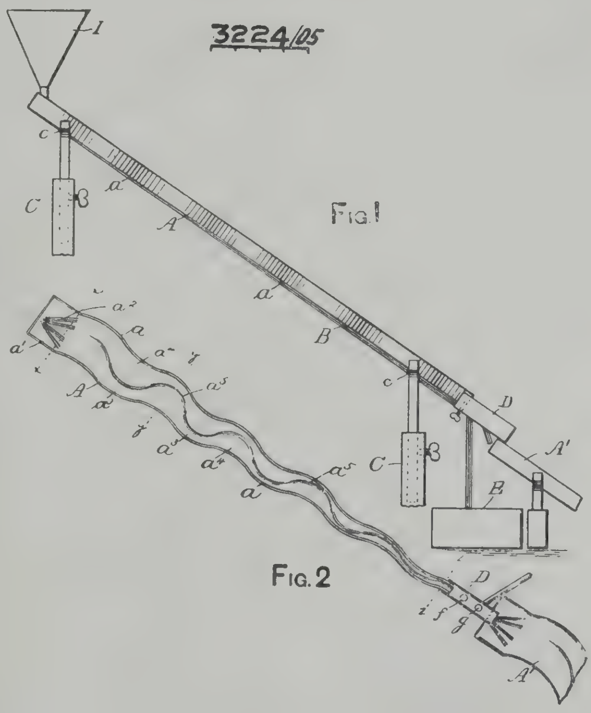
Serpentine ore-shoot; wavy riffle. Class 12.1.

This gravity concentrator is an inclined serpentine spout whose inclination is capable of adjustment. The sides of the spout gradually converge from its upper to its lower end, the wider end being at the top. The spout curves right and left alternately throughout its entire length. The bottom of the spout has a gutter line of greater curvature than the sides, as shown by the central shading in Fig. 2. The inclination of the spout is such as to allow the ground ore to fall down by its own weight.

The ore is fed in at the top of the spout with or without water, and travels down the inclined curve, the values being separated by gravity, and are drawn off through two apertures at the bottom of spout.

The spouts may be arranged in series.

5 *typed pages*, 7 *claims*; 1 *fol. drg.*, 6 *figs.*



3224/05

FIG. 1

FIG. 2

3225. 22 May. E. O. Wilcox, 189 Bell-avenue, Cleveland, Cuyahoga, Ohio, U.S.A., advertising solicitor.

Changing advertisements; reversing panels. Classes 54.1; 60.2.

Numerous pairs of reversible panels or shutters are arranged side by side in a suitable frame, and are intermittently reversed and changed to vary the matter displayed.

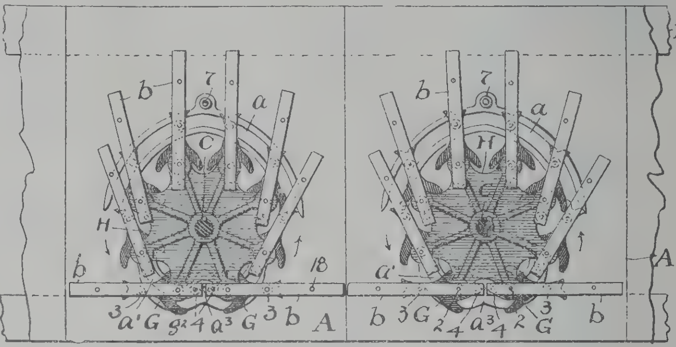
Sets of eight or more panels, having portions of sixteen pictures on opposite sides, are mounted on a reversing turret, and two panels of each set are displayed simultaneously, a sufficient number of turrets being used to form combined pictures for mural advertisements of considerable size. At each movement of the turrets a new panel of each set is brought forward, the next is turned back to front, and a third panel is retracted.

The panels **b** are constructed with a metal frame of channel-iron, on the vertical edges of which changeable slides may be placed. The frames are also supported detachably, by dowel pins **18**, between two sets of gudgeon bars, which are pivoted in the arms of the main turret wheels **H** at top and bottom of the vertical shafts **C**, that are placed in a row behind the pair of exhibited panels as in Fig. 1.

The shafts **C** are all driven by bevel gearing from a common lay-shaft, which is moved intermittently by mutilated gears to give periods of pause with sudden change.

Fig. 1

3225/05



The panel gudgeons both at the top and bottom pass through the turret arms, and each carries a lever **G** with rollers at both ends; the rollers engage in cam grooves **a** (at the back) and **a1** to **a3** (at the front), fixed to the floor and roof of the case; the back groove **a** engages one end of the lever and causes a feathering action to keep the panels in an approximately parallel position transverse to the front, when they are passing from left to right at the rear in Fig. 1; the front cam groove (with a cusp) engages the other roller to bring it parallel to the front for display, and to reverse it showing the other side at the next periodic step, while a third step swings the other roller inward to re-engage the back cam **a**.

The apparatus is substantially constructed to stand wind pressure; guide teeth on the levers **G** may engage pins near the cams to assist the reversal by the cusp-cam.

11 *typed pages*, 6 *claims*; 4 *fols. drgs.*, 10 *figs.*

3226. 22 May. J. K. Stewart, Chicago, Cook, Ill., U.S.A., manufacturer.

Overhead clutch for shearing machines, &c. Classes 37.6; 62.8.

The main shaft **1** has a spur wheel **2**, which drives the quick speed pinion **8** on the hinged and flexible shaft; the horizontal part **5** of the hinged shaft slides through the pinion **8**, and carries a clutch-ring **6**, the shaft and ring may be moved in and out of gear with the pinion **8**, by means of the bent lever **10**, that is held in the off position by the spring catch **14a**; the pinion **8** is held against sliding by the plate **13**; the whole gear is enclosed in the fixed housings **2**, **4**.

3226/05

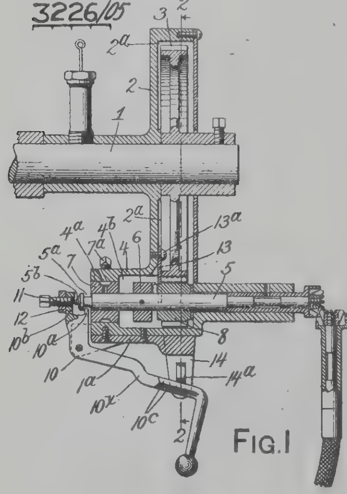


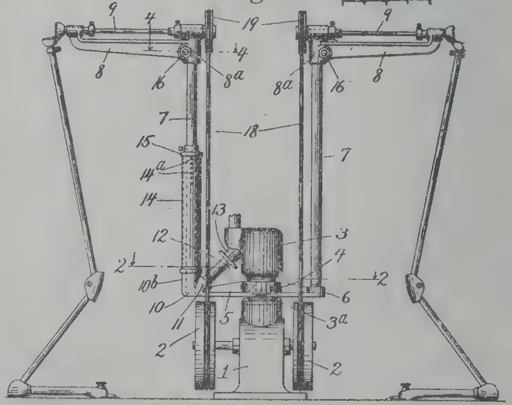
Fig. 1

8 *typed pages*, 5 *claims*; 1 *fol. drg.*, 4 *figs.*

3227. 22 May. J. K. Stewart, Chicago, Cook, Ill., U.S.A., manufacturer.

Sheep shearing plant. Classes 37.6; 66.5; 95.6.

Fig. 1. 3227/05



The gasoline (or other) motor **1**, has flywheels **2** driving overhead shafts **9** by bands **18**; the shaft brackets **8** are supported on tubular columns **7**, around one of which is a perforated muffler **14** for the engine exhaust; to tighten the band the bracket **8** slides on the column **7** and is clamped at **16**.

5 typed pages, 3 claims; 1 fol. drg., 4 figs.

3228. 22 May. E. C. Clemmensen, 424 Helen-avenue, Detroit, Wayne, Michigan, U.S.A., chemist, and A. H. C. Heitmann, 338 East Congress-street, Detroit, Wayne, Michigan, U.S.A., chemist.

Hypnotic compound.

Classes 09.1; 09.8; 87.1; 87.2.

An alkyl-oxy-acetic acid (or its ester) and urea are dissolved in alcohol in molecular proportions, and heated with sodium-alcoholate on a water bath. Reaction takes place immediately thus:—

$$2\ (C_2H_5)_2\ C.(OH)\ COO.\ C_2H_5 + (NH_2)_2\ CO + C_2H_5 - ONa = [(C_2H_5)_2\ C.OH\ CO]_2\ NH.\ N\ Na\ CO. + 3\ C_2H_5\ OH$$

Di-ethyl-oxy-acetyl-urea is formed by the addition of an acid thus:—

$$[(C\ H_5)_2\ COH\ CO]_2\ NH.\ N\ Na.\ CO + HCl = [(C_2H\ )_2\ COH\ CO]_2\ (NH)_2\ CO + Na\ Cl$$

The product is purified by evaporating the alcohol and washing out the acid and sodium salt.

The compound is an oily liquid of specific gravity 1.1107 which boils at 186° C. at 36 min. pressure; it is slightly soluble in water, and very soluble in alcohol, ether, acetone, chloroform, &c.

Doses of about 2 grams produce natural sleep without disagreeable after effects.

6 typed pages, 5 claims. No drawing.

3229. 23 May. J. Walz, 43 Bridge-road, Richmond, Vic., trunk maker.

Application under Sec. 7.

Vic.	19,348	7 June, 1902
N.S.W.	12,243	9 July, 1902
W.A.	4029	8 Sept., 1902
Qld.	6888	2 Oct., 1902
S.A.	7969/5861	7 Oct., 1902

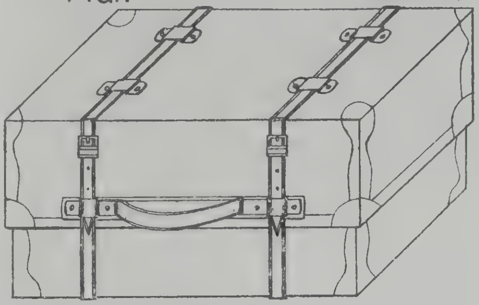
Telescopic dress cases.

Class 57.8.

The cases are made of straw-board or any suitable material, and the bodies are also covered or lined with calico, leather, paper, or any suitable fabric.

The corners are bound with folded sheet metal protectors, which may be soldered, lapped, or riveted; the free edges are stiffened by metal binding strips similarly attached; the edge strips may be corrugated or raised for greater strength.

FIG. I



3 MS. pages, 1 claim; 2 fols. drgs., 9 figs.

3230. 23 May. *Prov. only.*

A. J. Fortescue, Arncliffe, N.S.W., manufacturer.

"Improvements relating to poisoned pollard distributing machines."

Class 38.9.

3231. 23 May. E. C. Thorschmidt, 533 Himrod-street, Brooklyn, New York, U.S.A., machinist.

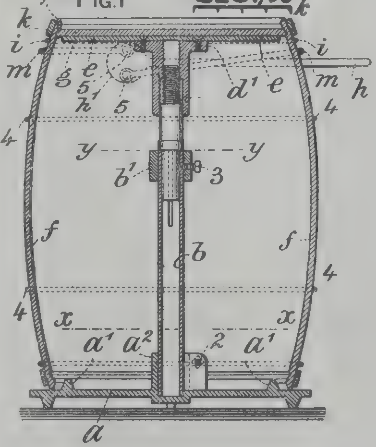
Heading clamp for barrels.

Classes 57.2; 80.3; 80.8.

The staves **f** are assembled and held together by the bilge hoops **4** in another machine.

The barrels are then placed over the base plate **a**, on the centre of which stands the jack-post **b**, supporting the head **g** on a table **e**, set at a proper height by the screw **d**, to fit the croze of the staves.

FIG. I



The ends of the staves are drawn together by a band **m**, the ends of which are attached to the broad end **h1** of the lever **h**;

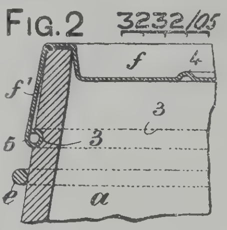
the band **m** is placed around the cask with the handle **h** vertical and by depressing the lever to the position in the drawing, or lower, the staves are closed around the head and held until the hoops **i** and **k** are fixed.

10 typed pages, 3 claims ; 1 fol. drg., 5 figs.

3232. 23 May. E. C. Thorschmidt, 533 Himrod-street, Brooklyn, New York, U.S.A., machinist.

Sheet metal cask-heads.
Class 57.2.

FIG. 2



Barrels having a wooden head at one end, are fitted at the other end with a removable head of sheet metal that is held on by a rim **f1** with a roll **5** that engages a croze **3** formed in the exterior surface of the wooden staves.

The roll on the rim may be formed in several manners illustrated, and a hoop **e** may be used to assist the application of the head, which is sprung into place ; the cask may be opened by progressively loosening the rim **f1** with an interposed instrument.

8 typed pages, 3 claims ; 1 fol. drg., 5 figs.

3233. 23 May. *C.a.P.* 7 Feb., 1906. W. G. Kent, 199 High Holborn, London, Eng., engineer.

Differential pressure gauge.
Class 56.6.

For liquid meters of the Venturi type, a spring loaded rubber diaphragm **d** is used in place of a U-tube of mercury for operating the recording mechanism.

The chamber **a** containing the compression spring **d1** (adjusted by the screw **d3**) communicates by the pipe **b** with the throat of the Venturi tube, and the pipe **c1** connects the chamber above the diaphragm with the upstream side of the Venturi tube; a snifting valve **c4** ejects accumulated air by the pipe **c3**.

The diaphragm is connected to the short arm **e1** of the recording lever by a knife-edged link **e3** held in contact without backlash by the spring **e2** ; the rock shaft **e** of the recording lever passes through a stuffing-box **c1**, and the pen **e5** marks the diagram on the clock-driven disc **f**.

Prov. 2 *MS. pages.*
Comp. 4 *MS. pages,* 3 *clms.;* 1 *fol. drg.,* 1 *fig.*

(For drawing see next column.)

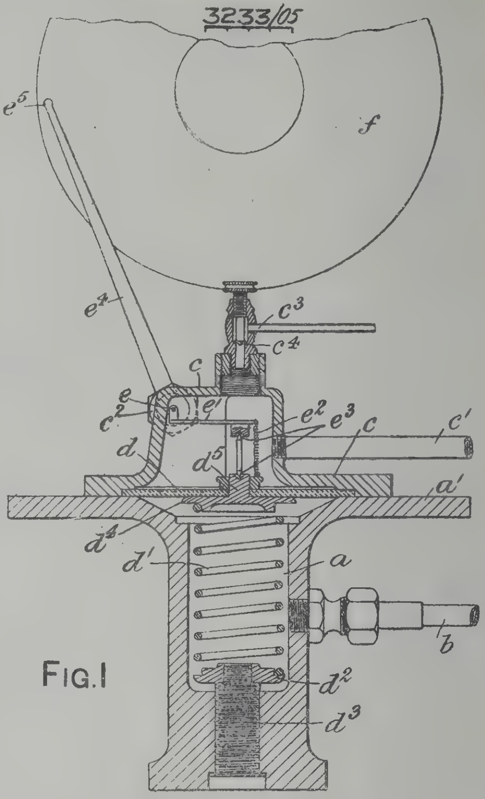


FIG. I

3234. 23 May. C. A. Vandervell, Chapter Works, Chapter-road, Willesden, London N.W., Eng., electrical engineer, and W. H. W. Proctor, Elvaston, St. Patrick's-road, Coventry, Warwickshire, Eng., engineer.

Dynamos ; differential motion of field and armature.
Classes 02.1 ; 02.3 ; 04.7 ; 60.8 ; 61.9 ; 62.4.

In dynamos in which both the armatures **n** and field **c** may rotate around a common axis, the armature is normally held stationary by a spring-loaded brake **p**.

The field is driven from the prime-mover by a band on **k**, and if the speed exceeds the limit for the desired voltage, the brake **p** is released and the armature allowed to be dragged by the field so that the relative speed remains constant.

In the illustration the field casing **d** rotates on ball trunnions **b** in a frame box **a** that may be carried by a motor car or railway train, the field being driven by the car-motor or from the train axle ; the armature spindle rotates in ball bearings **l** on the field frame **d**; contact rings **e**, **e** convey current to terminals **h**, **h**, and the carbon brushes **f** rotate with the field.

Two devices are shown for releasing the spring brake. In one, the brake levers on opposite sides of the drum are thrust apart by toggle links pulled straight at high speed by a centrifugal governor. In the other, the levers are directly pushed apart by a solenoid which overpowers the compressing spring when the voltage is excessive.

3234/05

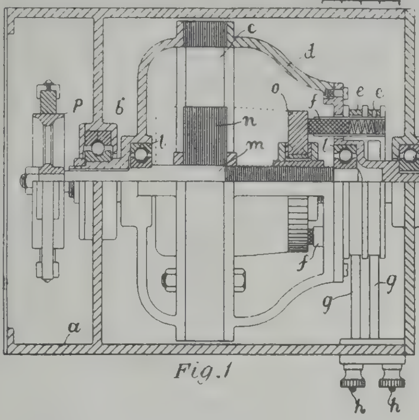


Fig. 1

The apparatus may be reversed and the brake put on the field when the armature is the drum part.

7 typed pages, 4 claims; 2 fols. drgs., 4 figs.

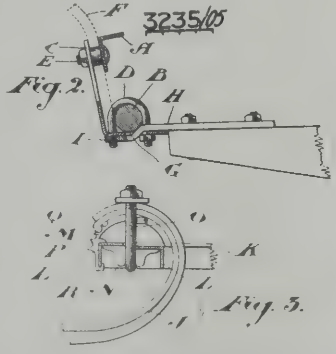
3235. 23 May. J. G. TURTON, 57C-576 Bourke-street, Melbourne, Vic., secretary (*communicatee of* MASSEY-HARRIS COMPANY LIMITED, 915 King-street west, Toronto, Ontario, Canada, manufacturers, *assignees of* L. M. JONES, *act. inv.*, and A. JOHNSTON, *act. inv.*, both of Toronto, Ontario, Canada).

Cultivators; two details.

Classes 31.1; 31.2.

In seeders or cultivators in which a rectangular L-iron frame has the rear-bar **A**, Fig 2, above the fixed axle **B**, the pole, axle, bar **A**, and seat pillar **F** are connected by a bent plate **C**; the upper end of **C** is attached to the bar **A** by two bolts **E**, and also holds the seat pillar **F** between the bolts; the pole has a strap plate **H**, the cranked end of which is passed through a slot **C** in **C**, the whole being clamped by a pair of U-bolts **D**.

3235/05



In cultivators having the tynes attached to a pair of parallel L-irons **L**, the curved tynes **J** are clamped against a saddle casting **M** (with notches **P**) by a U-bolt **O**, the limbs of which pass between the L-irons on either side of the tynes, and pull against a cross bar **N** below the bars **L**.

8 typed pages, 7 claims; 1 fol. drg., 4 figs.

3236. 23 May. *Prov. only.*

M. WOODS, 309 Pigdon-street, Princes Hill, Carlton, Vic., engineer, and T. J. GILBERT, 1 Minnie-street, Brunswick, Vic., dealer.

"An improved machine for dressing stone or other materials."

Class 18.1.

3237. 23 May. *C.a.P.* 13 Feb., 1906.

J. PENDER, Tinning-street, Brunswick, Vic., nail manufacturer.

Horseshoe machine.

Classes 39.3; 71.3.

The eccentrics **H** swage the ends of the bar, and the central crank **G** bends the bar to shape; when the ram **T** is drawn back a heated bar cut to length is placed on the table **A** between the centring fingers **H1**, which are coupled beneath the table by racks and pinion; the ends are then swaged between the anvils **N1** and the dies **N** which are adjustable by the bolts **M**; as the dies retire, the ram **T** (adjustable at **S**) is driven forward, bending the blank between the rollers **N2** and around the head **S2**; the blank finally meets the adjusting screws **Z** on the ends of the bell cranks **W** and presses inward the rollers **Y** (on the other arms of **W**) so as to bend the ends of the blank inwards to the required shape.

3237/05

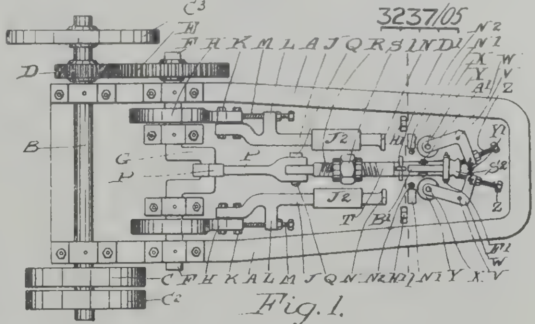

C3
H
F H K M L A J Q R S I N D1 N1
N2
X
W
Y
V
A1
Z
D
B
G
P
P
J2
H1
Y1
S2
J2
T
B1
Z
F1
W
C F H K A L M J Q N N2 H1 N1 Y X V
C2

Fig. 1.

On the return stroke the lever **B1** carried by the ram **T** engages with the fixed roller **D1** and pushes the shoe off the die through a hole in the table.

Prov. 5 *typed pages.*
Comp. 8 *typed pages,* 2 *claims;* 1 *fol. drg.,* 6 *figs.*

3238. 23 May. *C.a.P.* 12 Feb., 1906.

J. SILCOCK, Waratah, N.S.W., pottery manufacturer.

Boiler scale composition.
Class 83.1.

The average proportions are :—

Hydrated aluminium silicate ...	30 lbs.
Silica	10 ,,
Graphite	1 ,,

If the water is acid or contains much sulphate of calcium, a little alkali or lime is added. The composition is fed into the boilers with the feed water to insure intimate mixture with the water. The scale that forms is small in amount, soft, and easily removed.

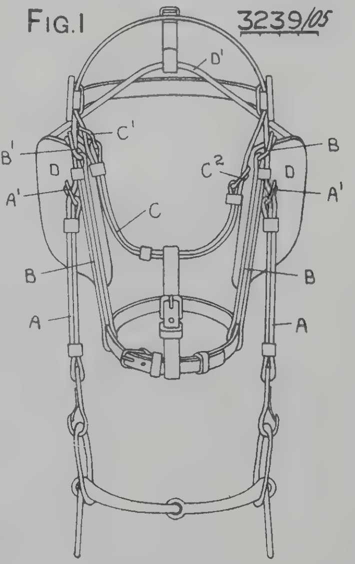
Prov. 2 *typed pages.*
Comp. 4 *typed pages,* 3 *claims. No drawing.*

3239. 23 May. W. BURGESS, West Hilton, S.A., horse dealer and shipper.

Safety bridle.
Class 39.7.

To prevent the pull on the bit disarranging the nose-band and winkers, two pairs of cheek straps are used, one pair **A** supporting the bit, and the other pair **B** supporting the nose band and winkers; the throat strap **C** passes from the head band on the off-side through a buckle **C1** on the near side and is doubled back on itself and secured.

FIG. I 3239/05



A short strap connects the nose-band with the throat lash.

4 *typed pages,* 6 *claims;* 1 *fol. drg.,* 1 *fig.*

3240. 23 May. *Prov. only.*

G. G. TURRI, Salisbury Building, 150 Queen-street, Melbourne, Vic., patent attorney (*attorney of* W. V. PALEY, apiarist, and G. S. FENTON, engineer and fitter, *act. invs.,* both of Charters Towers, Qld.

"Improvements in apparatus for discharging ash or other suitable material for deodorizing and sanitary purposes."

Class 86.2.

3241. 23 May. *C.a.P.* 23 March, 1906. *Lapsed.*

M. DALY, "Rosebank," Burwood East, Vic., engineer.

Wind pump head gear.
Classes 60.1; 90.7.

To balance lateral stresses on the pump rod, the cranks and links are duplicated with reverse directions of motion.

The wind wheel shaft **a** has a double bevel pinion **b** gearing with two bevel wheels **e** and **f** on parallel cross shafts **g**, with cranks **m** and **n** connected to a cross-head **j** by links **k** and **l** whose thrusts are mutually opposed.

3241/05

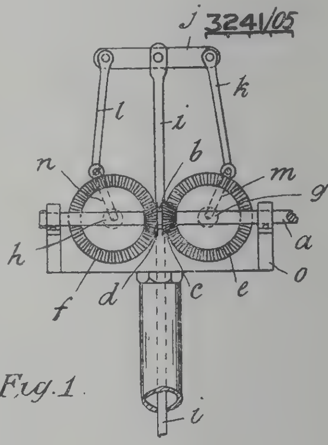


Fig. 1.

Prov. 3 *typed pages.*
Comp. 3 *typed pages,* 2 *cls.;* 1 *fol. drg.,* 2 *figs.*

3242. 23 May. *Prov. only.*

F. R. MILLAR, 380 Flinders-lane, Melbourne, Vic., agent (*agent of* T. H. GAYNER, *act. inv.,* 113 Neville-street, Albert Park, Vic.).

"A free pedal crank for motors and bicycles."

Classes 94.5; 94.7.

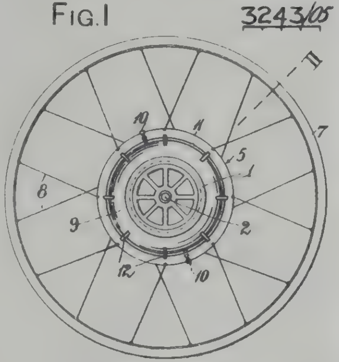
3243. 23 May. *C.a.P.* 23 Feb., 1906.

H. PARKER, Railway-street, Euroa, Vic., gentleman.

Double pneumatic hub rings.
Class 97.83.

The central hub casting **1** has two circumferential grooved rims in which two pneumatic tubes **9** rest and support a number of transverse grooved bridging bars **12** fitting the tubes; the bars **12** are connected by two flat rings **11**, to which the spokes are attached.

FIG. 1 3243/05



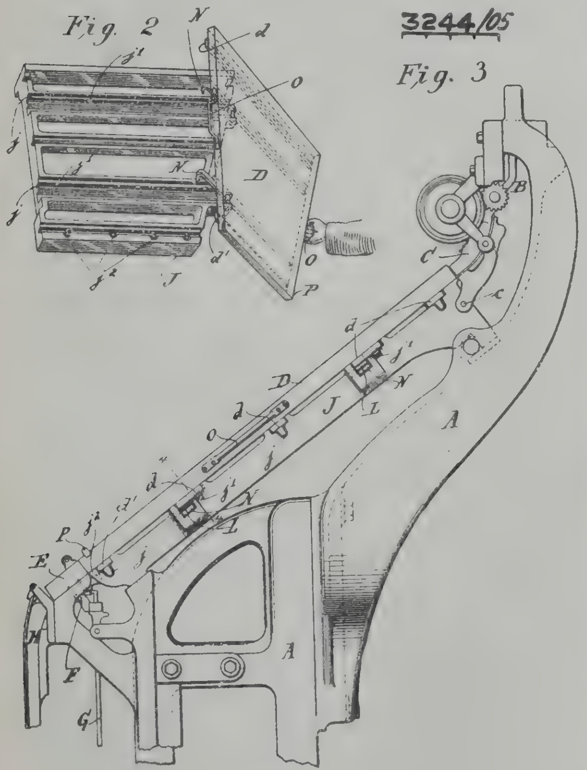
In driving wheels the hubs have small projections which embed themselves in the pneumatic tubes; or, the rings may be connected to the flanges by pivoted links.

Prov. 2 *typed pages.*
Comp. 4 *typed pages,* 3 *clms.;* 1 *fol. drg.,* 4 *figs.*

3244. 23 May. MERGENTHALER LINOTYPE COMPANY, Tribune Building, New York, U.S.A., manufacturers of linotype machines (*assignees of* D. S. KENNEDY, *act. inv.*, 508 Green-avenue, Brooklyn, Kings, New York, U.S.A., engineer.

Changeable magazines for linotypes.

Fig. 2 3244/05 Fig. 3



Class 50.5.

To facilitate the changing of the founts in linotype magazines, the matrix channels **D** are separated from the escapement bar **E** and throat **C**, and constructed of parallel plates with spacing ribs and edges suitably attached, forming a case which may slide laterally and be turned down for removal, as in Fig. 2.

Before removal the matrices are locked by a bar **P**, which slides across the lowest matrices above the escapement; the main frame is modified, as in Fig. 3, and a base frame **J**, under the magazine, has rollers **L** and **j2** on which the case **D** moves laterally, and the case has hooks **N** to engage the rollers **L** hingewise when the case is turned down.

10 *typed pages,* 8 *claims;* 3 *fols. drgs.,* 5 *figs.*

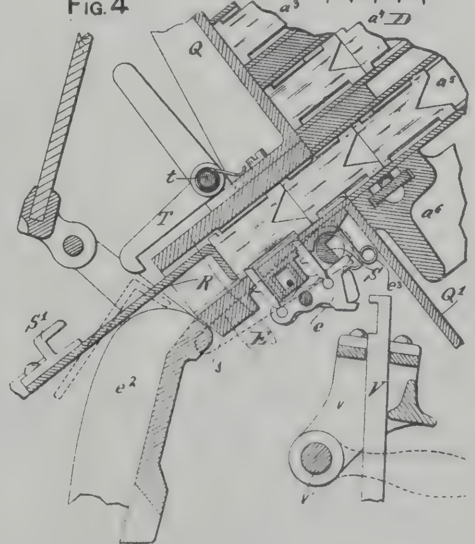
3245. 23 May. MERGENTHALER LINOTYPE COMPANY, Tribune Building, New York, U.S.A., manufacturers of linotype machines (*assignees of* J. R. ROGERS, *act. inv.*, 20 Ryerson-street, Brooklyn, Kings, New York, U.S.A.)

Changing matrix founts in linotypes.

Class 50.5.

Several matrix cases **a** to **a5** are mounted on a table **a6** that may be accurately elevated or lowered to bring the ends exactly into registration with the disced distributor throat **C** and the escapement **E** by a guided and geared screw jack **G** to **K**; separate U-collars **N** are provided for each position to fit the gap between t table and bracket **G**, whilst a steady pin **O** al locks the escapement end by engaging th

FIG. 4 3245/05



holes **1** in each case; the six or more cases may also be detached separately, and are matched by cross bars **a8**, **a9** with a locking bar **U** to prevent the escape of the matrices.

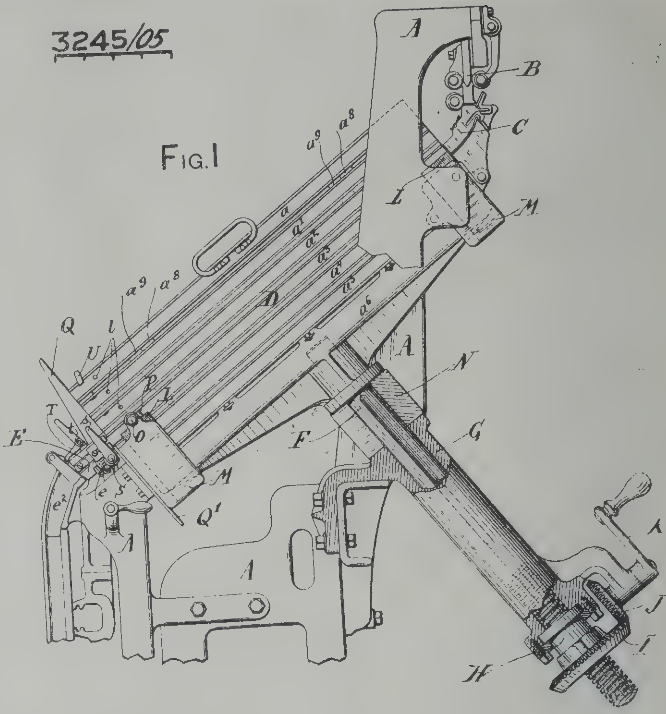
Before moving the cases by the jack-screw, it is necessary to push back the matrices that have partly entered the escapement, whilst the matrices are being pushed back by the pusher **R** until the stop **S1** slips under the detent **T**, when the face of the pusher is in alignment with the face **Q1** of the cases **a**.

In a modification, the pusher **R** operates an automatic escapement rocker to permit the backward motion of the matrices. The reed-bars **V** from the keyboard may be moved out of gear with the escapement by rocking the guide **v** on the pivot **v1**.

12 *typed pages*, 10 *claims*; 4 *fols. drgs.*, 9 *figs.*

3245/05

FIG. I



3246. 24 May. E. N. Waters, 414-418 Collins-street, Melbourne, Vic., patent attorney (*communicatee of* Linotype and Machinery Limited, 188 and 189 Fleet-street, London, Eng., *assignees of* T. M. North, *act. inv.*, 188 Fleet-street, London, Eng.).

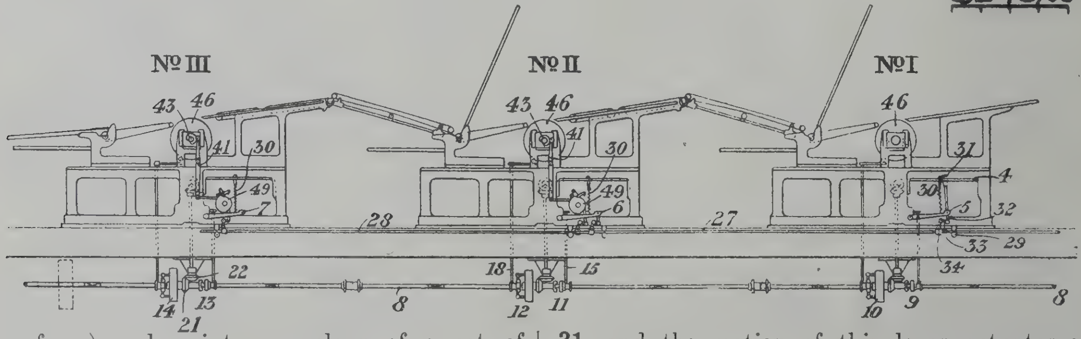
Colour printing on coupled machines.
Classes 50.8; 51.3.

The several machines I, II, III, or more (which may have either cylinder or flat printing surfaces) each print one colour of a set of impressions in register on the same sheet. The machines are connected by carrier tapes, so that a sheet fed to No. I will travel successively through all the machines, and be adjusted to exact register at each machine. The machines are driven by clutches from a through lay-shaft **8**, and each machine has an exact-position clutch, **9**, **11**, **13**, to insure correct starting and stopping, and also a friction clutch, **10**, **12**, **14**, which may drive the machines independently for single-colour work.

Each machine has a separate tripping-lever **5**, **6**, **7**, &c., Fig. 1, controlled by a spring **30**, to work the tripping or starting mechanism. On No. I the lever **5** is controlled by a pedal **31**, and the motion of this lever actuates a sliding rod **27** through a link **32** and bell-crank lever **33**. A similar rod **28** extends from the tripping lever of No. II to No. III machine, and so on if there are more than three machines.

Fig.1.

3246/05



Assuming, for example, that No. I is untripped by the upward movement of the pedal **31**, the rod **27** will be moved to the right, and at its other end will actuate a bell-crank lever **36**, Fig. 3, under No. II and through a link **37** will cause the head **39** of a bell-crank lever pivoted on a pin **40** to engage and shift the fly-over pawl **56** into engagement with the ratchet-wheel.

The pawl **56** and lugs are in one piece, pivoted to an arm **48** that is reciprocated about the pin **40** by the cam **43**, lever **41**, and link **47**. The fly-over pawls **56** engage alternatively with mutilated ratchet-wheels shown in dotted outline, both of which have teeth around only half their circumference, depending in number upon the number of revolutions the impression cylinder of No. II makes before the sheet about to be fed to No. I has passed to the same relative position on No. II.

Both wheels are fixed to a cam **49**, the motion of which is resisted by a spring-controlled brake. This cam is therefore moved through half a revolution, until the pawl **56** engages with the plain part of the mutilated ratchet wheel and thereby allows the tumbler **64**, adjustably connected through the arm **65** to the trip lever **6**, to move upward, and No. II machine is tripped.

The upward movement of the lever **6** on No. II actuates the next trip motion on No. III in a similar manner through the rod **28** and corresponding mechanism.

To allow each machine to be also independently tripped, the lever **6** may be merely pivoted on its shaft, and a second lever, controlled by the spring **30** and fixed to the shaft, may lie alongside the lever **6** and be actuated by it through a stop fixed to the second lever, and passing under the lever **6**.

Adjustment of register.—Side-lay apparatus (attached to the feed table at Nos. II and III cylinders) grips the sheet on arrival, and sets it accurately at the proper lateral position. A rock-shaft across the table is reciprocated by links from a rotating cam on the printing machine; the paper from the previous machine passes over a bevelled foot under a guide plunger, that is adjustably attached to a laterally moving slide which is spring-held against a lateral cam on the rock shaft.

The guide plunger is advanced by the cam to grip the paper in constant relation to its edge, after which the cam allows the slide to retract laterally to an adjustable stop which determines the register; the plunger grip is now released and the paper is seized by the cylinder grips.

27 *typed pages*, 20 *claims*; 11 *fols. drgs.*, 21 *figs.*

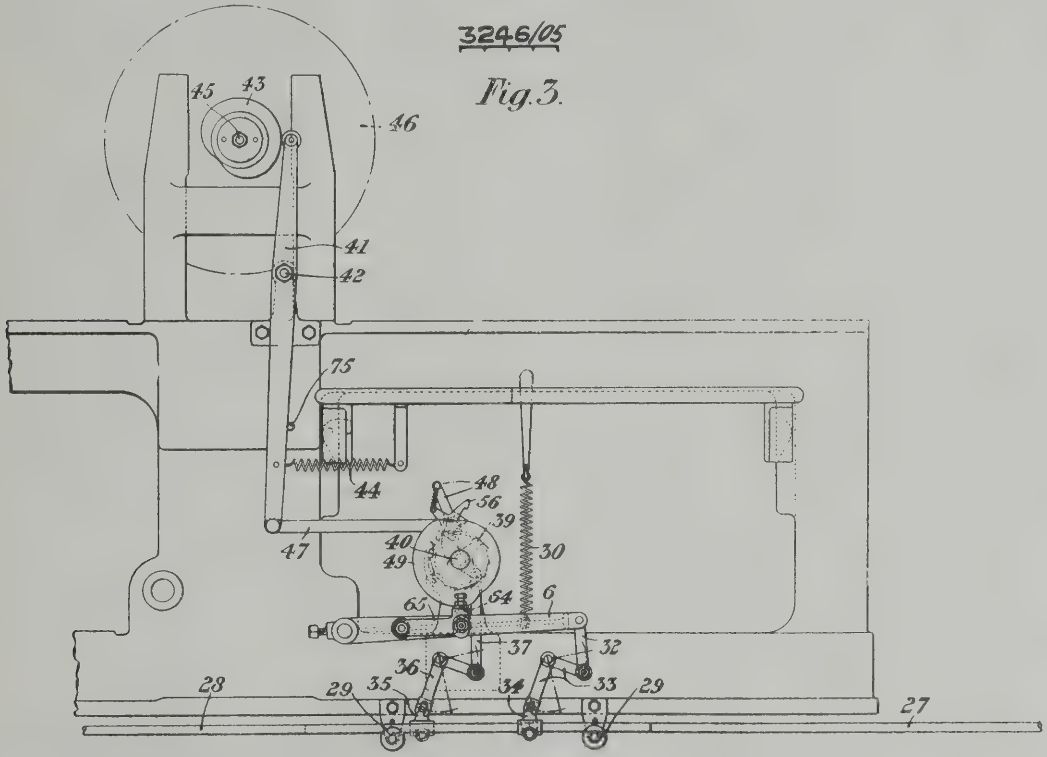

3246/05

Fig. 3.

3247. 24 May. C. B. Cottrell & Sons Company, 41 Park-row, New York, U.S.A. manufacturers of printing machinery (*assignees of* M. A. McKee, *act. inv.*, 41 Park-row, New York, U.S.A., printer).

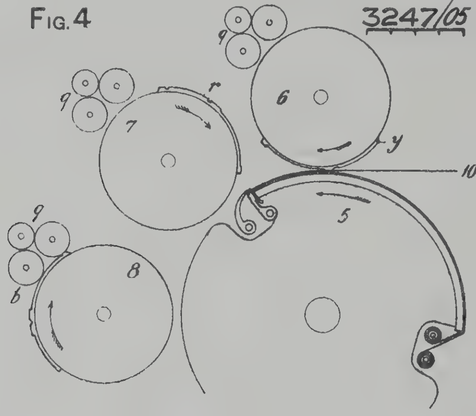
Multicolour tone printing.

Class 51.3.

A printing press, Fig. 4, has one impression cylinder **5** carrying the sheet **10** to be printed, and three (more or less) cylinders **6**, **7**, **8**, with inked plates each of a different colour, which are successively impressed in register on the sheet **10**.

To provide for the different gradations of tone in the several parts of the colour work (for example, a light part on a red plate might be required at the same place as a heavy tone on the blue plate), the make-ready is done by gradations of level in the printing plates, that may be produced by the method of Vic-19,179/02 (G.B.6959/02) or in any other suitable manner. Thus no ordinary make-ready is required upon the impression cylinder **5**.

FIG. 4 3247/05



9 typed pages, 2 claims; 2 fols. drgs., 4 figs.

3248. 24 May. *Prov. only.*

J. H. Smith, Landsborough, Vic., machine expert.

> "Improvements in implements for cutting and scarifying the soil (combined lump cutters and scarifiers)."

Classes 30.7; 31.2.

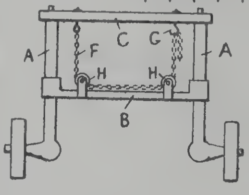
3249. 24 May. C. G. Smith, *act. inv.*, Ardrossan, S.A., agricultural implement maker (*assignee of* F. Clift, *act. inv.*, Curramulka, S.A., farmer).

Compensating suspension for wheeled ploughs.

Class 30.9.

To reduce twisting stress in the frames of wheeled ploughs, instead of the head **B** being fixed to the standards **A**, **A**, the attachment is made by balancing devices such as the chain **F**, running through the pulleys **H**, so that if one wheel rises over a stone the other opposite standard moves relatively downward in the socket on the head **B**.

FIG. 2 3249/05



In a modification, the pulleys are replaced by a balancing lever, or by a plate spring attached at its centre to the centre of **B**.

5 typed pages, 6 claims; 1 fol. drg., 4 figs.

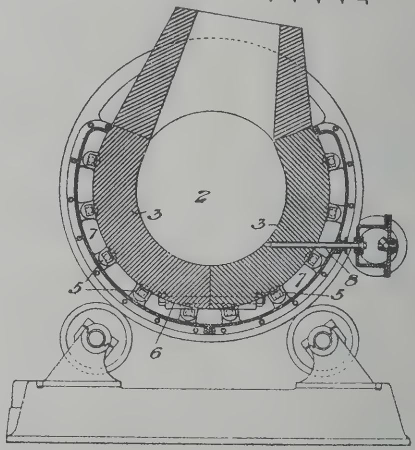
3250. 24 May. E. N. Waters, 414-418 Collins-street, Melbourne, Vic., patent attorney (*communicatee of* C. M. Allen, *act. inv.*, Lo Lo, Missoula, Montana, U.S.A., metallurgist).

Matte-smelting and converting.

Classes 15.5; 16.33; 17.3.

To retain at the heat produced by pyritic matte smelting as in 2793/05 the water cooling may be omitted, and the metal walls **3** are made so thick that they will not be destroyed by the pyritic heat, but will conduct a sufficient portion of the heat to insure durability to the internal surface, yet leave the greater portion for use in the smelting process; the heat transmitted to the outer surface may be utilized for heating the blast, by means of the air-jacket **7**.

FIG. 3 3250/05



6 typed pages, 15 claims; 2 fols. drgs., 3 figs.

3251. 24 May. E. N. Waters, 414-418 Collins-street, Melbourne, Vic., patent attorney (*communicatee of* R. Baggaley, *act. inv.*, Pittsburg, Allegheny, Penn., U.S.A., manufacturer and miner; C. M. Allen, *act. inv.*, Lo Lo, Missoula, Montana, U.S.A., metallurgist, and E. W. Lindquist, *act. inv.*, Chicago, Cook, Ill., U.S.A., mechanical engineer).

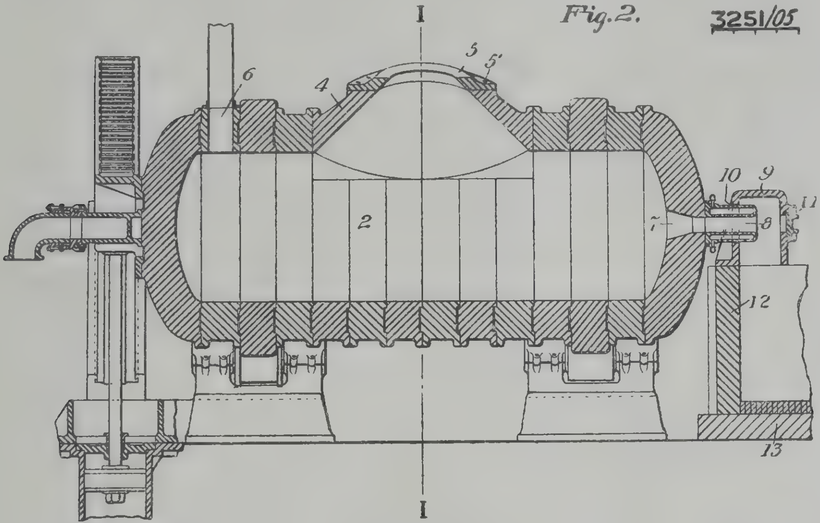


Fig.2. 3251/05

Pyritic smelting in bath-converter.
Classes 15.5; 16.6; 16.33; 17.3.

The process in 2793/05 is made more continuous in this apparatus; the horizontal converter **2** (which may be rotated by a rack and hydraulic cylinder when required) is about 20 feet long and 6 feet in diameter; it is constructed of solid metal blocks about 18 inches thick; the dried and pre-heated ore is charged at the feed hopper **6**, and falls on a previously prepared bath of molten matte reaching up to the level of the outlet **7** in the trunnion **10**; the matte is covered with a layer of ore and slag which is gradually melted as it floats over the matte bath from **6** to **7** and flows out continuously through the trunnion **7**, and falls into the fore-hearth or slag-well **12**; the blast is introduced through a longitudinal row of **32** tuyeres lined with 1.25 inch brass tubing for convenience of renewal; as the ore charge floats on the bath the surplus blast passes through it and oxidizes its sulphur with increase of heat which melts the slag; the bath must not become so cold that solid ore or slag may sink near the tuyere level.

The slag well is of large dimensions (300 cubic feet and upwards) and may be built of heavy metal blocks like those used for the converter; the well is worked under the usual protection of a layer of solid slag, and the heat is retained a long time to insure complete settlement of the matte; a large part of the hot gases is also forced under the slag in the well by choking the outlet **5** with ore.

This method will advantageously smelt highly silicious sulphide ores without the use of coke.

16 *typed pages*, 11 *claims*; 4 *fols. drgs.*, 6 *figs.*

3252. 24 May. *C.a.P.* 24 Feb., 1906.

F. J. Odling, *act. inv.*, 2 Prince's-walk, Prince's-bridge, Melbourne, Vic., mining engineer, and W. Jamieson, *assignee*, Broken Hill Chambers, 31 Queen-street, Melbourne, Vic., gentleman.

Rotating conical vanners; gyration.
Classes 11.4; 60.4; 97.81.

The circular table **A** may be convex or concave, with the usual surface of rubber or linoleum **a**; it is supported at its upper end on a spherical bearing **A2** (and slowly rotated by a worm wheel outside the tubular shaft **A**) in the manner of a revolving pendulum.

A small high-speed spindle **A3**, with upper pulley **A6**, passes through the tubular shaft; on its lower end is a disc **A4** eccentrically loaded at **a2**; the shaft runs in a lower bearing fixed in the table, to which it gives rapid gyrations.

The range of gyration of the table is restrained by a flange **C** which runs loosely against fixed rubber-tyred rollers **D**, so that, as the flange strikes the rollers when gyrating, a percussive movement of small magnitude is given to the table.

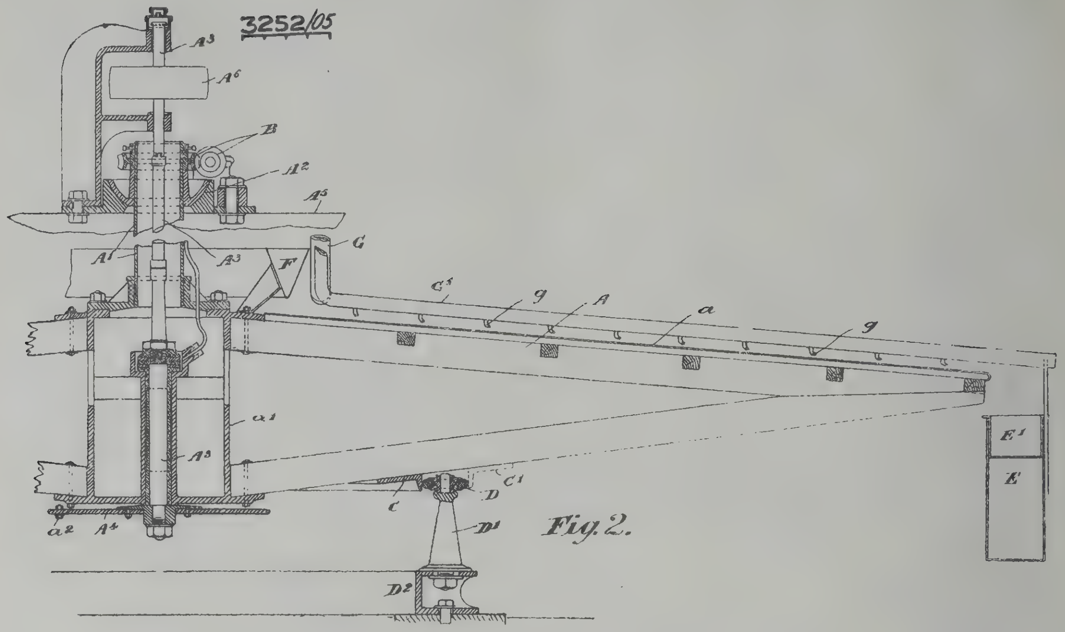
The usual feed shoots **F**, water jets **g**, and annular launders **E**, are provided in suitable manner.

Prov. 3 *typed pages.*

Comp. 5 *typed pp.*, 4 *claims*; 2 *fols. drgs.*, 2 *figs.*

(For drawing see next page.)

3252/05



3253. 25 May. *Prov. only.*

Adeline E. PARKER, Healesville, Vic., farmer's wife.

"Improvements in animal traps."

Class 38.7.

3254. 25 May. *Prov. only.*

A. BUCHANAN (*jun.*), Palace Hotel, Broken Hill, N.S.W., engineer.

"An improved method of and means for driving the rubber band of ore vanners."

Class 11.4.

3255. 25 May. L. E. LACHAT, 25 Quai Claude Bernard, Lyon, France, civil engineer.

Platform trucks.

Classes 93.1; 93.3.

A warehouse or platform truck **1**, Fig. 2, carries the load on a central axle **k** with wheels **3**; it has also additional end axles **d**, **e** with smaller wheels **f**, **g** which can slide from side to side along the axle, and are brought back to a central position by springs **j**; the wheels **f**, **g** only touch the ground when slight tipping takes place.

Several modifications of the arrangement of the springs **j**, or other means for returning the end wheels to the centre are described.

If it is desired to lower the steering wheels permanently to the ground, they may be mounted in eccentric bearings. For tipping, one end axle and frame, Fig. 9, may be swung back on the centre **u** by nut **x** and screw gear **y**.

FIG. 2. 3255/05

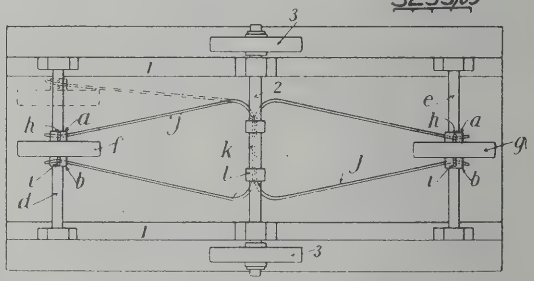
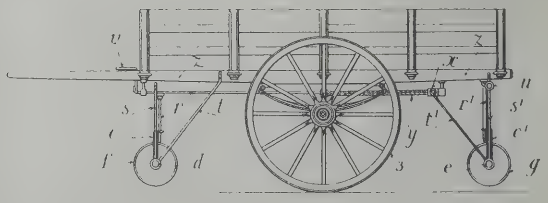


FIG. 9.



10 letterpress pages, 11 cls.; 6 fols. drgs., 20 figs.

3256. 25 May. E. Waters, 414–418 Collins-street, Melbourne, Vic., patent attorney (*communicatee of* W. Schmitz, *act. inv.*, Hohenzollernstrasse 1, Elberfeld, Germany, engineer).

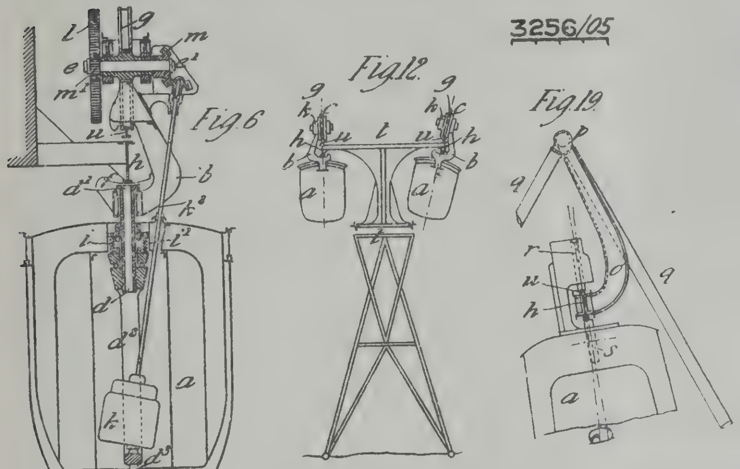
Application under Sec. 7.

Vic.	...	19,735 ...	17 Sept., 1902
S.A.	...	7941/5846 ...	19 Sept., 1902
W.A.	...	4061 ...	25 Sept., 1902

Overhead mono-rail systems.

Classes 95.4 ; 96.3 ; 96.5 ; 98.4.

3256/05



Two forms of the system are outlined ; in Figs. 6 and 12 the rails are fixed to brackets on piers or arches, the vehicle is below the rail and the wheels above, both swinging, but in opposite directions, around the head of the rail as a pivot ; in Fig. 19, the rail is slung from a pivot on the bridge frame, the rail support and carriage swinging together so that the rail may be held between upper and lower wheels **r** and **s**, which may be compressed together to increase adhesion.

In Figs 6 to 12 the two-wheeled bogie swings around curves on a vertical pin, that may be either between the hanger **b** and the truck, or between the hanger and the vehicle ; in either case, to prevent derailment, the lower part of the hanger and the bottom of the railguide are mutually shaped, so there is very small vertical clearance, and either the hanger or the lower flange of the guide is curved to the head of the rail as centre ; the edges of the curved part have stops to limit the angular deviation.

The motors may be either on the bogie in any system of drive or reduction gear, or may be in the vehicle and connected by shaft and bevel gear as in Fig. 6.

Several modifications of springs, framing and details are outlined.

12 *typed pages*, 4 *claims* ; 4 *fols. drgs.*, 21 *figs.*

3257. 26 May. *C.a.P.* 3 Mar., 1906.

T. R. Morris, 8 and 10 City-road, South Melbourne, Vic., managing director.

Collapsible boxes; diagonal folds, &c.

Classes 48.5 ; 73.8.

The box is built from six pieces, four side and end pieces (Fig. 1) the bottom piece (Fig. 2) and the lid ; two side pieces **A** are unfolded, in two others **B** the edges are folded and the corners are fastened by lugs **Y** and slots **x** ; the blanks are scored or creased as shown by the dotted lines to enable the box to be folded flat. The lid is attached after the boxes are filled by passing through holes in the side of the box and tied over the top.

The lids may be packed flat for storage, or the sides and bodies of two boxes may be collapsed and folded along the lines **B1**, **O**, **N**, to lie in the cover ; the boxes may be made in pairs slightly varying in size so that the second cover may stow outside the first. Other provisions are made for folding and storing boxes not exactly square.

Fig. 1

3257/05

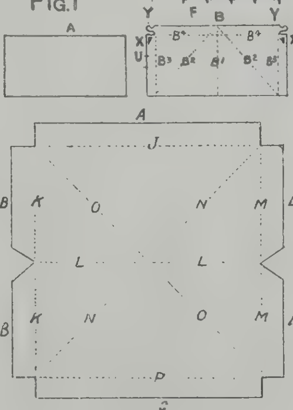


Fig. 2

Boxes of card may have the lugs **Y** strengthened by wire staples or by strips of sheet metal with jagged edges.

Prov. 5 *typed pages.*
Comp. 10 *typed pages,* 8 *cls.;* 1 *fol. drg.,* 11 *figs.*

3258. 26 May. R. Sparrow, Barrack-street, Perth, W.A., patent attorney (*communicatee of* G. M. Rogers and C. H. Havard, both of 100 Washington-street, Chicago, Cook, Ill., U.S.A., lawyers, *assignees of* J. von der Kammer, *act. inv.*, 137 East Indiana-street, Chicago, Cook, Ill., U.S.A., manufacturer).

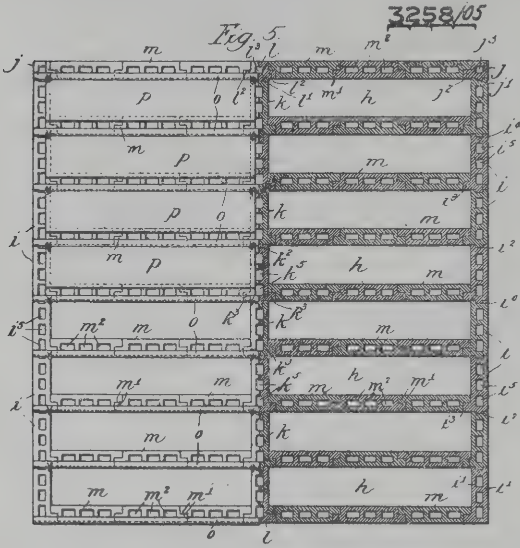


Fig. 5.

Germinating chambers.
Classes 31.4; 81.1.

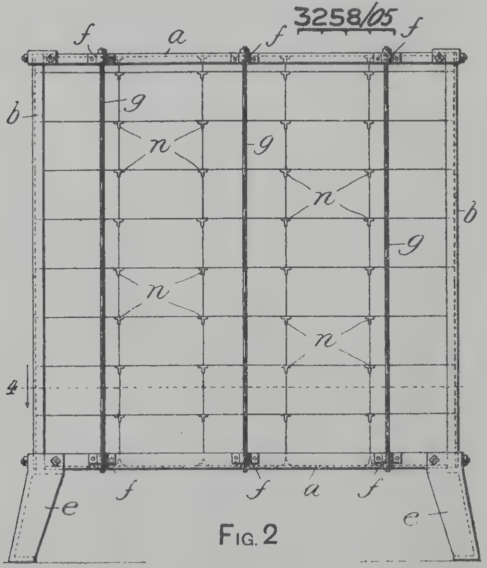


Fig. 2

The apparatus in G.B. 10,987/*01* for germinating malt, &c., is modified by replacing the moss-packing by hollow tiles.

Germinating chambers **p**, Fig. 5, have the top, bottom, sides, and shelves formed of porous interlocking tiles having rectangular air channels running through them, which are held together by tie bolts and angle iron framing, Fig. 2, around all the external angles; the structure has an angle iron base frame with four cast iron legs **e**.

Wire gauze trays or drawers slide in from each end of the several chambers, which are closed by iron flap shutters.

8 *typed pages,* 4 *claims;* 4 *fols. drgs.,* 8 *figs.*

3259. 26 May. *Prov. only.*

C. Mills, 33 Ferry-road, Woolston, near Christchurch, Canterbury, N.Z., painter and glazier.

"Improved adjustable bracket for supporting a platform."

Class 78.9.

3260. 26 May. *Prov. only.*

W. E. Chamberlain, Feilding, N.Z., engineer.

"Improvements in the construction of wire fencing."

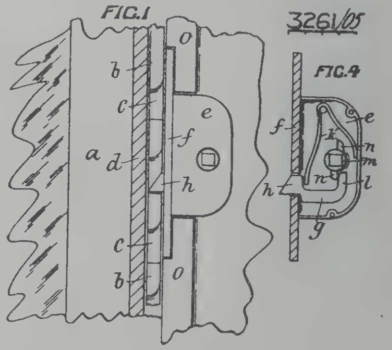
Class 81.8.

3261. 26 May. *C.a.P.* 23 Feb., 1906.

A. H. Wylds, Palmerston North, N.Z., sawmiller.

Sash fastener; rack and spring-lock.
Classes 77.1; 78.7.

The rack **b** is attached to the sash, and a spring mortise lock **f** is fixed in the frame; the spring lock has a chamfered bolt head, to allow it to slip on the rack when the sash is being closed, but the sash cannot be opened except



by inserting the squared key-handle into the barrel **m**; the teeth **n** on the barrel will slip past the bolt tail **l** if the handle is continuously moved in one direction.

Prov. 3 *typed pages.*
Comp. 5 *typed pp.*, 2 *claims*; 1 *fol. drg.*, 5 *figs.*

3262. 26 May. F. P. Dewey, Lanier Heights, Washington, Columbia, U.S.A., chemist.

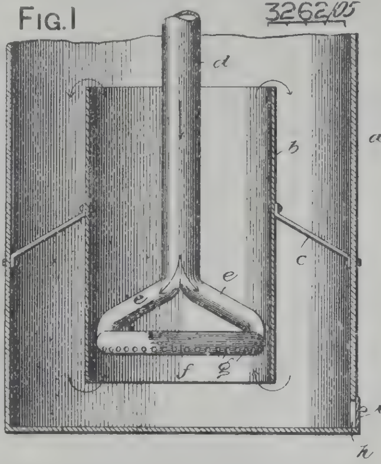
Sulphurous acid leaching, &c.

Classes 14.1; 14.7.

Oxidized copper ores are suspended in water and circulated by jets of mixed sulphurous acid and air; the copper sulphite is oxidized to sulphate, and the liquor may be separated and treated for bluestone, or reduced by scrap iron or by electrolysis, the weak residual liquor being returned to the vat.

The special vat **a**, Fig. 1, has an internal vertical circulating tube **b**, and a discharge door **e**; the vat is filled to a point just below the top of the tube **b**, and a mixture of gas and air from a sulphur burner or roasting furnace is injected by a Körting jet down the pipe **d**; the disseminated bubbles from the rose **g** reduce the mean specific gravity inside **b**, so that the pulp rises after the manner of a Pohlé pump, and flows over down the outer space.

With very porous ores a strainer may be fixed around the bottom of the inner tube and the clearing door **e** raised above it, so as to facilitate the removal of the liquor.



The vat may also be used for cyaniding or other process needing a circulating vat.

8 *typed pages*, 19 *claims*; 1 *fol. drg.*, 2 *figs.*

3263. 26 May. *Prov. only.*

J. Maclellan, 307 – 317 Chapel-street, Prahran, Vic., merchant.

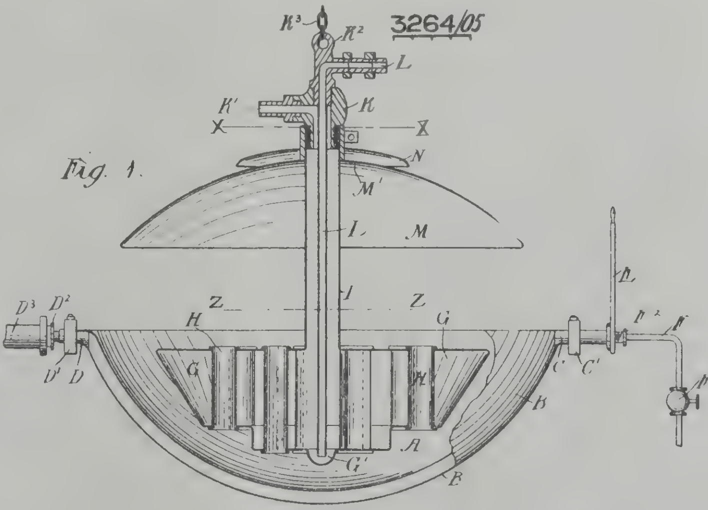
"Improvements in ball games and apparatus therefor."

Class 53.1.

3264. 26 May. W. Peacock, 498 Chapel-street, South Yarra, Vic., manufacturer.

Steam preserving pan and heater.

Classes 24.5; 34.7.



The copper pan **A** is heated by an external iron steam-jacket, and may be rocked on the inlet and outlet trunnions **C** and **D**; a tubulated copper heater **G** is suspended by the chain **K3**, and may be lowered into the jam or sauce; steam is supplied by flexible tubes at **K1**, and condensed steam is blown out from the sump **G1** up the small tube **L**; a hood **M** catches the splashes, and has a secondary cover **N** over the top ventilating holes **M1**.

When the cooking is completed, the heater is cooled by the admission of compressed air or cold water before it is lifted out, so that the adhering film will not be scorched by the residual heat after the heater is lifted.

5 *typed pages*, 6 *claims*: 2 *fols. drgs.*, 4 *figs.*

3265. 26 May. *Prov. only.*

Lucy O'Brien (better known as Madame Lucie Laure), 49 Dangar-place, Sydney, N.S.W., music and French teacher.

"The piano-portatif."

Class 01.2.

3266. 26 May. *Prov. only.*

J. H. Peters, Margaret-street, Toowoomba, Qld., importer and manufacturer.

"A combined coffee roaster and blending machine."

Classes 10.7; 24.2.

3267. 26 May. *Prov. only.*

L. C. Auldjo, Victoria-street, Ashfield, N.S.W., consulting engineer.

"Improvements in steam boilers."

Classes 16.8; 63.4.

3268. 26 May. J. C. Traill, 34 Mercer-road, Malvern, Vic., gentleman.

Curtain pins.

Classes 43.9; 46.7; 58.4.

Two safety or guard pins are formed from a double-pointed length of wire, so that the spring hinge-coils **H** are at the extreme ends, and both points hitch on the central loop **D**.

The central loop may be used for hanging on a hook, or a separate hook may be attached (as in Fig. 5) for hanging on pole rings; the double form assists the draping of curtains in pleats as shown.

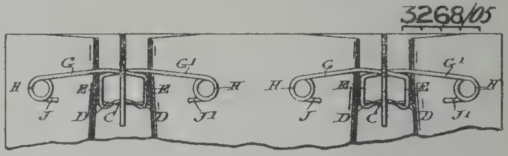


Fig. 5

The pin may be also used for clothing, in which case the hook may usually be omitted.

4 typed pages, 3 claims; 1 fo'. drg., 8 figs.

3269. 27 May. *Prov. only.*

R. Lewis and G. Vincent, both of 133 Flinders-lane, Melbourne, Vic., manufacturers.

"Improvements in pedal driving gear attachments for motor cycles and other velocipedes."

Classes 94.5; 95.9.

3270. 27 May. *C.a.P.* 25 Nov.

J. R. Harrison, 47 Albert-street, Ballarat, Vic., ironfounder.

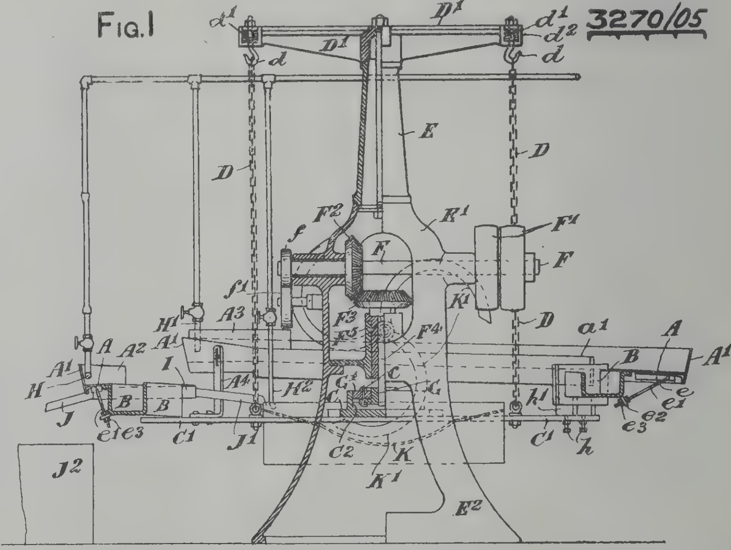
Gyrating amalgamator, &c.

Classes 11.4; 13.4.

The annular table **A** of amalgamated sheet copper is supported by a three-armed frame **C1** hung by chains **D** from brackets **D1**; the frame is gyrated by the eccentric **C1** on the vertical shaft, which makes 200 revolutions per minute.

The annular table is divided at a radius, the receiving end near **A3** being raised some inches above the discharge **A2**, with a helical fall from **A3** to **A2**; the annulus has also a slight fall outward toward the raised rim **A1**, which is also amalgamated; in plan the table decreases in width from **A3** to **A2**, and the outward slope may be adjusted by screwed stays **e1**.

Fig. I



For about two-thirds of the lower part of the annulus there is an internal rectangular trough or launder **B**, by which the gangue is collected and discharged at an opening near **A2**.

The ore pulp is fed at **A3** and becomes concentrated as it passes around the helix, the rich part going outward and the "seconds" inward; at the delivery **A2** the pulp falls into a double launder **I** with a central partition that may adjust the relative proportion of concentrates going down the spout **J**, and of "seconds" that flow inward down **J1** to the sump **K**, whence they are lifted by a tympan wheel **K1** with three curved arms, and are discharged through its axial spout on the upper end of table **A** for repeated treatment.

Prov. 4 *typed pages*
Comp. 7 *typed pages*, 6 *clms.*; 1 *fol. drg.*, 4 *figs*

3271. 29 May. *C.a.P.* 27 Mar., 1906.

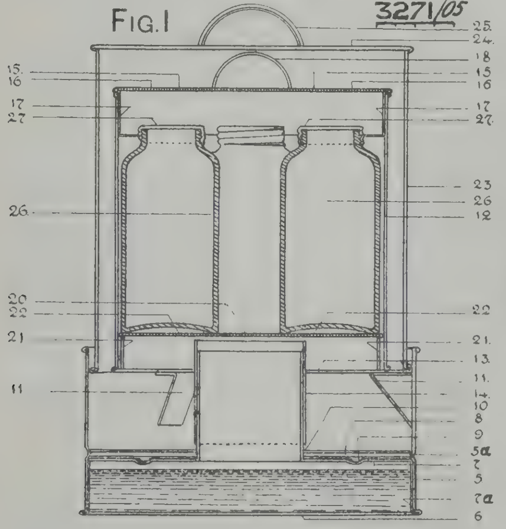
H. H. Wolters, Appila Yarrowie, S.A., Lutheran minister (*communicatee of* Kathryne M. Keiser, *act. inv.*, Walshville, Montgomery, Ill., U.S.A.)

Steamer for preserve jars, &c.

Classes 24.5; 34.7.

The fruits or vegetables to be preserved or cooked are placed in the covered jars **26**, which are compactly stowed in the inner vessel **12**, which is supported on brackets **11** around a central pipe **14** rising from the lower or boiling tank **5**.

FIG. I 3271/05



The combined vessels are heated on a stove as usual; the steam rises through the tube **4** into the chamber **12**, heats the jars, and passes through its perforated cover **15**. The removable outer casing or hood **23** condenses the steam, the water falling back to the tank **5** through holes **9**.

Prov. 2 *typed pages.*
Comp. 7 *typed pp.*, 3 *clms.*; 1 *fol. drg.*, 1 *fig.*

3272. 29 May. *Prov. only.*

G. H. G. Baass, Marlborough street, College Park, S.A., coachsmith.

"Improvements in vehicle brakes."

Class 93.3.

3273. 29 May. *Prov. only.*

E. H. P. Manton, 63 Elgin-street, Hawthorn, Vic., mining agent.

"An improved method for raising sunken vessels and other submerged bodies."

Class 88.7.

3274. 29 May. *Prov. only.*

V. C. J. Nightingall, 265a Post Office-place, Melbourne, Vic., electrical engineer.

"Means of rendering signs luminous for advertising purposes."

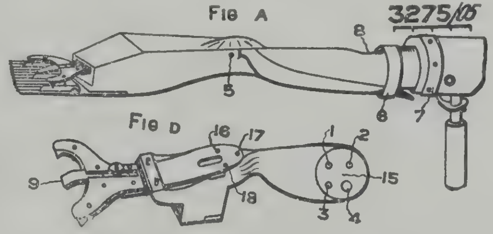
Classes 06.6; 54.1.

3275. 29 May. A. Cowell, Denham-street, Rockhampton, Qld., shearer.

Lever tension in shearing machines.

Class 37.6.

In Wolseley shearing machines, the usual adjustable tension screw is replaced by an external lever, which has a forked fulcrum jointed inside the case to the arm giving pressure on the cutter; the outer arm of the lever has a divergent tail that may be drawn against the handle by screwing up the ring **6**; to loosen the lever when changing the cutter, the ring is moved back to the recess **8**.



An adjustment clamp for the central finger is illustrated, and there are also removable steel liners to certain surfaces.

8 *MS. pages*, 1 *claim*; 1 *fol. drg.*, 6 *figs.*

3276. 29 May. *Comp. lapsed.*

A. Cowell, Denham-street, Rockhampton, Qld., shearer.

"Improvements in Wolseley sheep shearing machines, viz., a spring steel tension pin, spiral design."

Class 37.6.

3277. 29 May. *Comp. lapsed.*

G. Earngey, 181 Oxford-street, Waverley, N.S.W., land surveyor.

"Improved shirt with detachable cuffs adjustable as to arm length."

Classes 43.6; 43.9.

3278. 29 May. *Comp. lapsed.*

J. Budge, 209 to 215 Harris-street, Pyrmont, N.S.W., engineer.

"Improvements in the churn for the manufacture of butter."

Class 36.7.

3279. 29 May. *Prov. only.*

A. Z. Clark, 90 Queen-street, Melbourne, Vic., mineralogist.

"An improved method of producing metallic zinc or spelter."

Class 15.4.

3280. 30 May. *C.a.P.* 3 Aug. *Lapsed.*

W. Morrison, 63 Primrose-street, Moonee Ponds, Vic., bootmaker.

"Improvements in bridles, winkers, headstalls, and halters."

Class 39.7.

3281. 30 May. *Prov. only.*

D. Edwards, 480 Elizabeth-street, Melbourne, Vic., engineer.

"Improvement in rubber tyres."

Classes 97.83; 97.89.

3282. 30 May. *Prov. only.*

D. C. Smith, Kalgoorlie, W.A., electrical engineer.

"Improvements in electrical heating and cooking appliances."

Classes 06.7; 24.2.

3283. 30 May. E. L. Frenot, 309 Faubourg St. Antoine, Paris, France, electrical engineer.

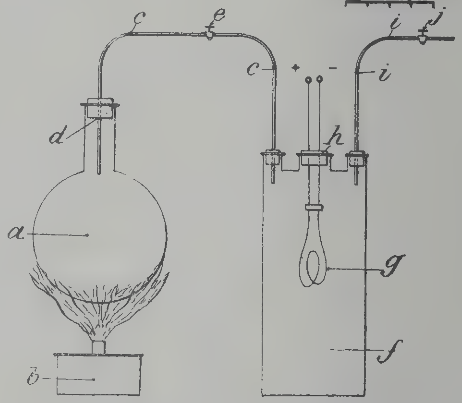
Earthy filaments for elastic lamps, &c.
Classes 06.2; 06.4; 23.5.

Ordinary or carbon metal filaments for incandescent electric lamps receive several coats (by painting or dipping) of a syrupy composition containing :—

Alcohol at 90 degrees ...	250 grams.
Sugar candy	50 ,,
Thorium nitrate	40 ,,
Cerium ,, ...	3 ,,
Cobalt ,, ...	1 ,,
Aluminium ,, ...	1 ,,
Potash ,, ...	0·5 ,,

The mounted filament is flashed in the apparatus **f**, Fig. 1, in vapour produced by boiling the composition, until the desired luminosity is attained.

Fig. 1 3283/05



Otherwise, special filaments may be produced by squirting a composition of cellulose, &c., with the rare earths, the threads being solidified, dried and carbonized.

The alcohol, sugar, and tartrate of potash assist the reduction of the oxides to metals; the process may also be performed in a reducing atmosphere in a muffle or other suitable apparatus.

The process may be applied to filaments for arc-lamps or gas-mantles.

7 typed pages, 4 claims; 1 fol. drg., 1 fig.

3284. 30 May. *Prov. only.*

W. G. H. Smith, Woodville, S.A., commercial traveller.

"A measuring device."

Class 56.4.

3285. 30 May. *Prov. only.*

L. H. CARROLL, *act. inv.*, Fyansford, near Geelong, Vic., market gardener; S. JACOBS, *assignee*, corner of McKillop and Moorabool streets, Geelong, Vic., draper; and W. J. McINTOSH, *assignee*, Moorabool-street, Geelong, Vic., dentist.

"An improved flying machine."

Class 90.3.

3286. 30 May. *Prov. only.*

R. F. BARKER, 36 Macleay-street, Sydney, N.S.W., consulting engineer.

"An improved process for recovering the fatty matter from the water in which wool has been scoured."

Classes 09.2; 28.5.

3287. 30 May. *Prov. only.*

W. NIVEN, Lithgow, N.S.W., blacksmith.

"An improved brake for road vehicles."

Class 93.3.

3288. 30 May. *C.a.P.* 28 Feb., 1906.

T. O. MORAN, care of E. G. ABELL, 159 Queen-street, Brisbane, Qld., inventor.

Cyclist's trouser clip.

Classes 43.9; 94.9.

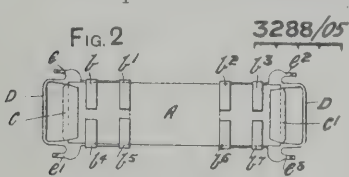


FIG. 2

A short piece of elastic webbing **A** has end plates attached by lugs **b** to **b7** and **C C1**, which are closed tightly over the elastic; the plate has finger loops **D**, and hooks **e** which catch into the clothing in the usual manner.

Prov. 2 *typed pages.*
Comp. 3 *typed pp.*, 1 *clm.*; 1 *fol. drg.*, 3 *figs.*

3289. 30 May. *Prov. only.*

R. O. GEARY, Herbert-street, Rockdale, N.S.W., foreman japanner and enameller.

"The Geary steel sheet and venetian blind slat painting machine."

Classes 25.8; 79.4.

3290. 31 May. *C.a.P.* 19 Jan., 1906.

H. P. McCOLL, 16 Edward-street, Hawthorn, Vic., electrical engineer.

Controllers for electric elevators.

Classes 04.7; 59.2.

The starting resistances are cut out by steps of a rheostat arm **4** that is operated by solenoid and plungers **2, 2** with several separate coils; in the mid-position (as shown) of the starting switch **20**, the motor is cut off the mains, and the armature is closed through a resistance **18** (between the duplex reversing switches **S, S1**) so as to act as a brake when stopping.

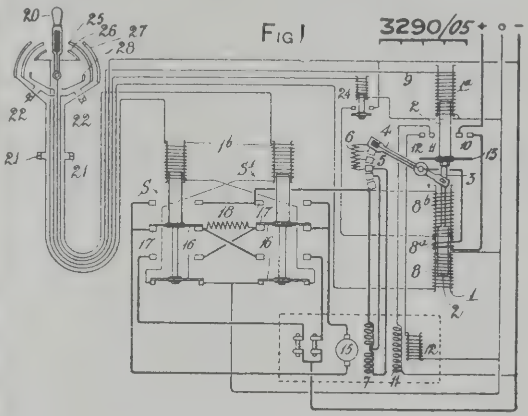


FIG 1

Fig. 1 shows the wiring for a three-wire direct circuit; solenoid **1** operates the rheostat arm **4**, having a dash pot, solenoid **1a**, the main switch, and solenoids **1b** control the reversing switches **S, S1**.

A relay **24** operated from the car switch **20**, closes the circuit of coil **8b**, to obviate the necessity of wiring inside the elevator cage on the full voltage between the two outer lines.

The main motor-contacts **10** are in series with coil **8a** and the rheostat **4, 5**; the shunt field **11** and the brake magnet **12** are also closed by the plate **13**. The series fields **7** and motor armature **15** are connected through the reversing switches **S** and **S1**.

When the car switch **20** is moved on to the first step on one side (say to the right in the Fig. 1) closing contact **25**, the magnet coil **1a** draws up the plunger and contact plate **13**. This plate **13** closes the motor contacts **10** of the main switch and closes the shunt circuit **11** and brake magnet circuit **12**.

The second step of the car switch **20** to the contact **26** completes the circuit of coil **8** pulling the plunger **2** downward and inserting all the resistances **6**.

The third step to the contact **27** completes the circuit through the **S1** part of the reversing switch; right-hand coil **1b** lifts the switches **16**, **17** on that side, closing the circuit through series resistance **6**, series field **7**, and armature **15**, and starts the elevator at slow speed.

At the last step to the contact **28** the circuit through the coil **8** has been broken, the relay **24** is closed and the coil **8b** is energized in opposition to the coil **8a** in the armature circuit, but as the coil **8b** is more powerful than the coil **8a**, the rheostat arm **4** moves slowly against its dash-pot, and cuts out first the resistances **6** and then the series field **7**.

To stop the car the switch **20** is returned to the contacts **25** and **26** only, releasing the reversing switch **S1**, closing the armature circuit through the resistance **18**. As the shunt fields are still excited, a powerful retarding effect is produced and brakes the car.

On cutting out the remaining contacts **25** and **26** the plate **13** drops, opening the circuit **11**, **12**, which brings the brake into action and stops the motor, and also restores the rheostat arm to its starting position.

To reverse the elevator the switch **20** is moved in the opposite direction. Limit switches such as **21** and **22** are provided on the circuits controlling the reversing magnets **1b** and main switch magnet **1a**.

The wiring for using this system of control on a two-wire circuit is also shown.

Prov. 3 *typed pages.*
Comp. 9 *typed pp.*, 7 *clms.*; 1 *fol. drg.*, 2 *figs.*

3291. 31 May. H. V. Blake, Oxford-street Works, Accrington, Lancashire, Eng., hydraulic engineer.

Hydraulic rams; flexible valves.

Classes 68.1; 74.7; 74.8.

To simplify the construction and to facilitate the adjustment of the pulse-valve according to the volume of the downfall supply, the ram is made of three castings **a**, **c**, **d**, Fig. 2, which are completely connected by two external tie-bolts that compress the flanges against packing washers **k**, **l**.

The casting **c** has a large cylindrical grid surface **f**, inside which the expanding tubular rubber pulse valve is held as a curtain by an adjustable spreader; the delivery valve **i** has a similar grid which is covered by a tubular rubber valve **j**, closed by its own elasticity.

The adjustable spreader Figs. 3 and 5 has two sets of star arms which hold out the tube **h** to touch the grid at four places as Fig. 3, or in eight places as Fig. 5.

When the supply has a large flow the adjustment as Fig. 4 requires a large flush to spread out the rectangle of rubber to close the grid **f**; when the tube is divided into eight sections, Fig. 5, a much smaller flow will close the valve and cause an efficient pulse; the unequal spacing of the two sets of spreaders, that may be quickly set in any position by the bolt **x**, allows considerable range of adjustment.

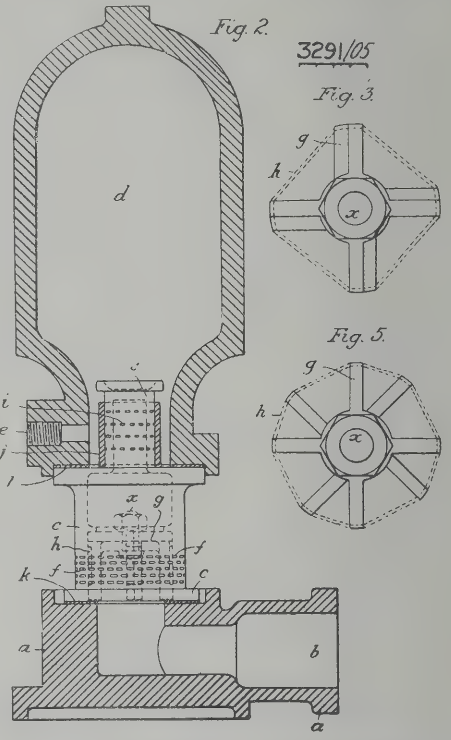


Fig. 2.
3291/05
Fig. 3.
Fig. 5.

4 *typed pages*, 3 *claims*; 3 *fols. drgs.*, 6 *figs.*

3292. 31 May. J. Dewar, 1 Scroope-terrace, Cambridge, Eng., professor of chemistry.

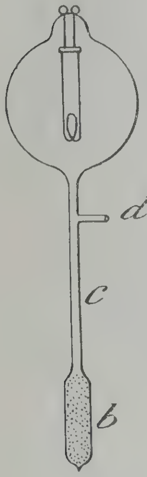
Perfecting high vacua, &c.

Classes 00.8; 06.1; 06.4; 08.6; 21.5; 29.7.

The capacity of charcoal for absorbing gases increases as the temperature is reduced; as a

3292/05

Fig. 1.



special example, charcoal from cocoa-nut shells, which will absorb 4 c.c. of hydrogen or 8 c.c. of oxygen at zero centigrade will absorb 135 c.c. of hydrogen or 230 c.c. of oxygen at — 180 centigrade.

Fig. 1 shows the application to the perfecting of the vacuum in an electric bulb; the appended bulb **b**, containing the charcoal, is strongly heated while the bulb is exhausted at **d**; after sealing **d**, the bulb **b** is immersed in liquid air. After a few minutes the charcoal absorbs the residual gas, and the bulb **b** is sealed off as usual.

Fig. 2.

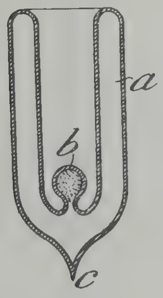


Fig. 2 shows a double walled vessel for storing liquid air; in this case when the bulb **b** is covered by the stored liquid, the increased absorption of the charcoal perfects the vacuum in the space **a**, and reduces the conductivity.

If the temperature is only lowered to the boiling point of one of the gases in a mixture, this gas may be absorbed by the charcoal and thus separated from the others. Specially applicable for the production of high vacua for X-ray and other electrical apparatus.

7 *typed pages*, 5 *claims*; 1 *fol. drg.*, *figs.*

3293. 31 May. W. M. Ducker, 277 Broadway, New York, U.S.A., manufacturer.

Portable panelled houses.

Class 81.3.

Plans are described for a single-story house, Fig. 4, and also for a modification with two stories; the carpentry is arranged for separation of the house for transport into interchangeable unit sections, which may be rapidly erected and secured by a limited number of screw bolts and wedge keys in addition to the dovetail and rabbeted joints.

The ground plates 1, Fig. 8, are dovetailed at the corners, and carry the floor joists **3** partly by dovetailed ends and partly on the rail **1a** spiked on laterally.

3293/05

Fig. 13

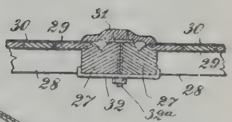
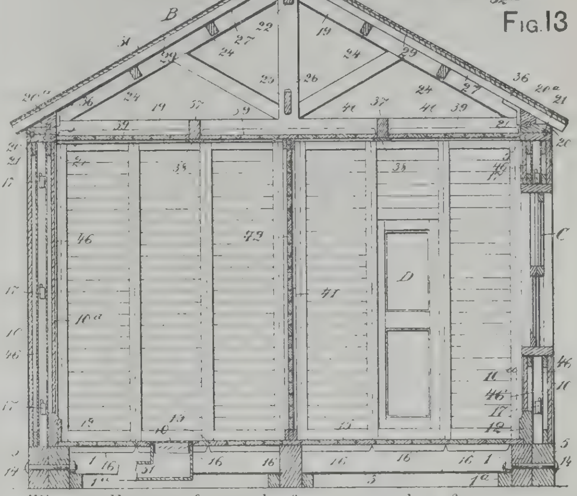


Fig. 4



The walls are formed of rectangular frames **5**, **6** bolted to the ground plates at **14**, adjoining frames being held together laterally by wedged keys in mortises; the inner faces of the uprights have two grooves into which sectional panels (of reinforced plaster on wooden frames) are placed; drafts are excluded by a tongue **13**.

3293/05

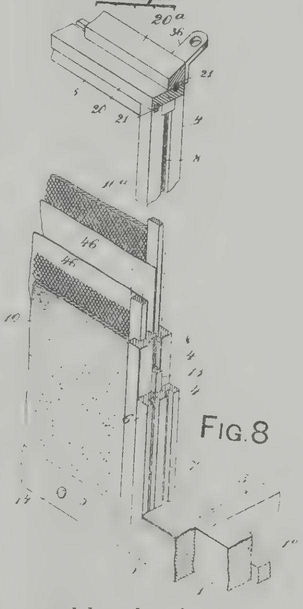


Fig. 8

The roof frames **B** may be in one or more pieces according to size, and rest on wall plates above the wall panels, being secured by bolting and bracket irons.

The flooring and ceiling are made up of ledged panels of several boards, which may be moved as units; internal partitions are of matchboard.

The roof covering, Fig. 13, is in boarded sections jointed at double rafters **27** by plates **32**, with a cover board **31**; the boards may be sheathed with roofing felt **30**, or with metal for protection against fire, in which case the joint, Fig. 25, may be used to flash the sections.

The plaster panels may be replaced by chamfer boards.

13 *typed pages*, 19 *claims*; 7 *fols. drgs.*, 27 *figs.*

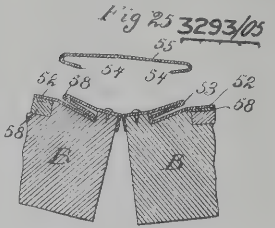
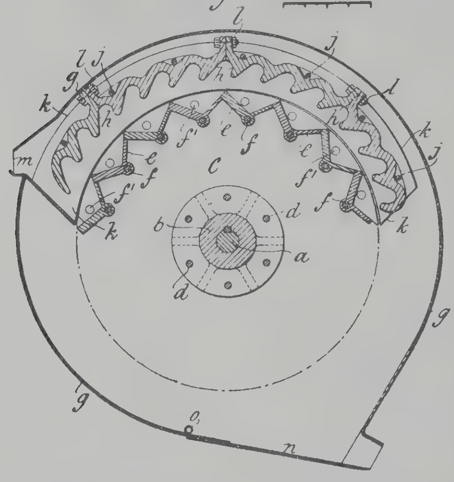


Fig 25 3293/05

3294. 31 May. P. S. Triggs, 80 Ladbroke-grove, London, Eng., engineer.

Drum disintegrator.
Class 10.6.

The drum is built of V-sections **e**, bolted between end discs **C** on the shaft **a**; the upper half of the enclosing case **g** contains a ribbed breast **h** having deep pockets, into which the ore fed at **m** is projected and rebounds against the angular beater until it falls into the case **g**, and is washed away down the shoot **n** by water from a pipe **o**.

Fig.1. 3294/05


4 *MS. pages*, 2 *claims*; 1 *fol. drg.*, 2 *figs.*

3295. 31 May. *C.a.P.* 9 Jan., 1906. C. N. Collison, 483 Collins-street, Melbourne, Vic., patent attorney (*communicatee of* H. R. Angel, *act. inv.*, 28 Grange-road, Ealing, London W., Eng., ship-owner).

Scorifying complex sulphides.
Classes 08.9; 15.1; 15.2; 15.6.

Each ton of oxidized ore is mixed with 10 per cent. of rich lead ore, about one-fourth of its weight of coals and cinders, and one-third of salt cake (Na_2SO_4).

The mixture is heated to redness with rabbling, 3 per cent. of lime is rabbled into the mass, and the charge is then covered with carbon mixed with 3 per cent. of ZnO; after standing 40 minutes the charge is again rabbled at intervals.

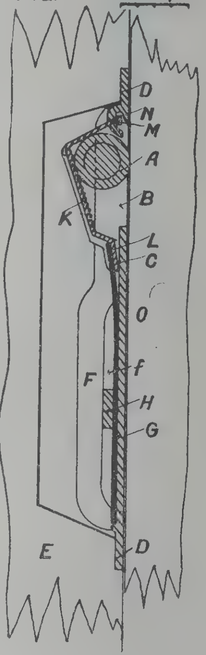
The lead is reduced and collects the precious metals, while the zinc burns away freely and is collected as flue dust. The lead may be collected by melting the charge, or by jigging the fritted mass; the caustic soda produced may be lixiviated.

Prov. 2 *typed pages.*
Comp. 3 *typed pages*, 4 *claims*. *No drawing.*

3296. 1 June. E. J. Parrish, Rochester, New York, U.S.A., commercial traveller.

Sash support; roller and spring cam.
Class 78.7.

Sliding sashes are supported (without sash weights, &c.) by wooden rollers **A** set in mortise frames in the panes, which jam against spring supported roughened inclined wedge planes **K**; the wedges **K** are hinged at **M** to the mortise frame, and are held forward at the lower end by plate springs **G** wedged into the mortise plate **D** by a key or bridge slip **H**; as the sash descends after being lifted the rollers **A** move down **K** and are pressed against the sash so as to support the weight.

Fig.2 3296/05


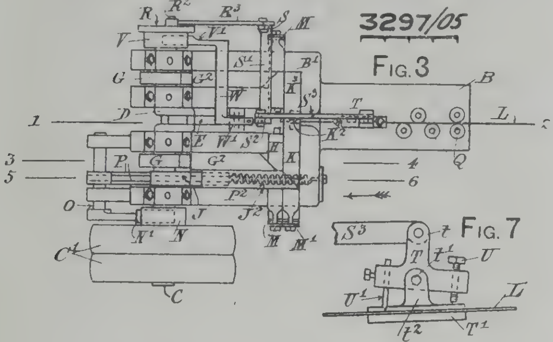
5 *typed pages*, 4 *claims*; 2 *fols. drgs.*, 4 *figs.*

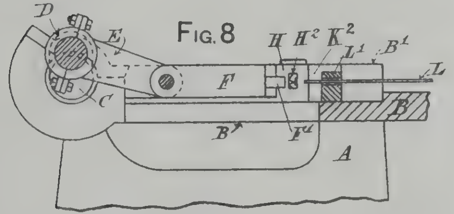
3297. 1 June. P. Price, *act. inv.*, S. Hill, W. P. McElhone, *assignees*, trading as P. Price & Co., Miller-street, Pyrmont, N.S.W., manufacturers.

Nail heading and pointing.
Class 78.1.

In Fig. 3, the main shaft **C** driven by large belt pulleys **C1**, has a central short-stroke crank **D** for the heading plunger **F** Fig. 8; on the end remote from the pulleys an adjustable crank disc and pin **R2** drives the wire feed grip **T** through the rock shaft **S1**; the grip block **K** is forced against the fixed block **R3** by mitre cams on the end of the plunger **J2**, and retracted by plate springs **M1**; the cut-off and pointing dies **H2** on opposed plungers **H** are similarly operated by plungers **G2** and springs **M**; a knock-out finger **W1** is operated by the eccentric **V** and rock shaft **W**; the cam **J**, rock shaft **O**, and spring **P2** operate to retract the plunger **J2**.

3297/05





The feed slide **T**, Fig. 7, grips the wire by the sharp detent **U1**, on the return stroke the adjusting screw **U** exactly limits the length of the feed, which is roughly adjusted by the crank pin **R2**; after the heading operation the next feed stroke brings the point between the cutters **H2**, which leave sufficient wire projecting from the holders **K**, **K3** to form the next head.

9 typed pages, 4 claims; 3 fols. drgs., 12 figs.

3298. 1 June. The Empire Inventions Co., Ld., Equitable Buildings, 350 George-street, Sydney, N.S.W. (*assignees of* C. L. Garland, 154 Phillip-street, Sydney, N.S.W., mining dredge proprietor; G. Proudfoot, railway contractor, 13 Montague-street, Balmain, N.S.W.; and Marion Bowen, married woman, 13 Montague-street, Balmain, N.S.W., all *act. invs.*).

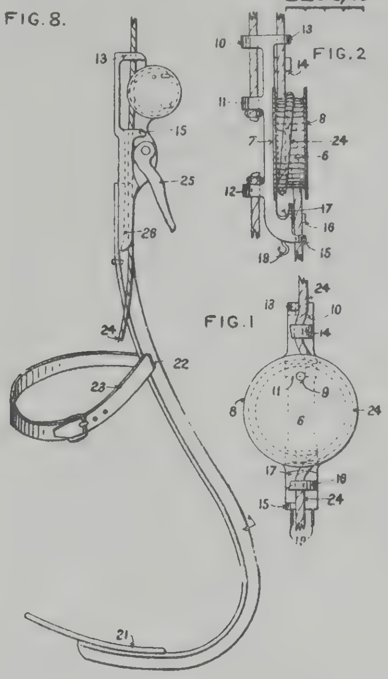
Fire escape.

Class 88.4.

A light steel line is carried in travellers' baggage, or stored in each room of a building; it is coiled on a reel in single or double bight; for use, one end is made fast to the building, and the reel is thrown out of a window.

A hook-frame 20, Fig. 8, with seat **21**, body strap **23**, and brake bobbin **6** at its upper end, is placed on the rope which makes one turn around the fixed bobbin; thus a passenger on the seat may hold the end **24** tight, and lower himself as slowly as desired by slacking the rope gradually; a brake-dog **25** may be used to assist the control.

3298/05



In Figs. 1 and 2 attachments to the bobbin frame for a double rope are shown, the upper bight is passed over a pulley at the top, and after each descent the loop may be cast off the bobbin and the seat bracket may be hauled up for another passenger; a lubricating cavity **9** is provided in the bobbin **6** to reduce chafing.

7 typed pages, 7 claims; 2 fols. drgs., 7 figs.

3299. 1 June. *Prov. only.*

T. Grace, 20 Ivy-street, Darlington, N.S.W., inventor.

"Improvements in power mechanisms for producing revolving motion."

Classes 60.1; 60.3.

3300. 1 June. *Comp. lapsed.*

S. A. Nash, "Rothesay," Military road, Mosman, N.S.W.

"An apparatus for sterilizing instruments used in dental surgery"

Class 87.7.

3301. 1 June. *Prov. only.*

C. McIntyre, Braeside Mfg. Co. P. Ld., Gipps-street, Richmond, Vic., manufacturer, and A. U. Alcock, 208 Russell-street, Melbourne, Vic., electrician.

"Improvements in electrical heating apparatus."

Classes 06.7; 25.7.

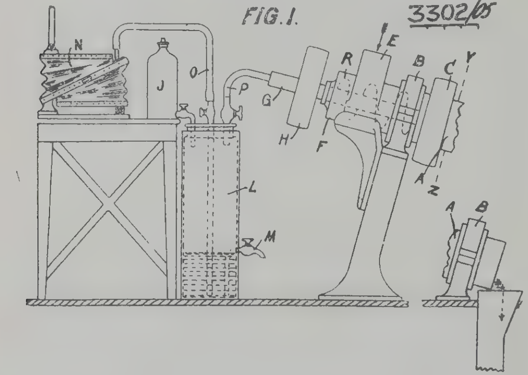
3302. 1 June. J. and S. Andrews, Belfast Mills, Percy-street, Belfast, Antrim, Ireland, millers.

Conditioning flour, &c., by nitrogen-peroxide, &c.

Classes 08.5; 10.8; 34.3.

Recently ground flour, semolina, &c., are treated with oxidizing gases to improve the condition or quality. The gas preferably employed is air mixed with nitric acid or peroxide of nitrogen. Chlorine, bromine, and similar gaseous compounds capable of liberating oxygen may also be employed; ozone is not satisfactory.

FIG. 1. 3302/05



The flour is fed by a hopper **E** with feed-worm **R** into a cylinder **A** mounted in bearings **BB** and driven by a pulley **C**. The cylinder **A** is fitted with internal ribs which continually turn the flour over.

Air from the bellows **N** passes through the vessel **L** and the pipe **G** into contact with the flour, the vessel **L** being filled up to the tap **M** by a regulated supply of nitric acid and ferrous sulphate from the bottles **J**.

6 typed pages, 3 claims; 1 fol. drg., 3 figs.

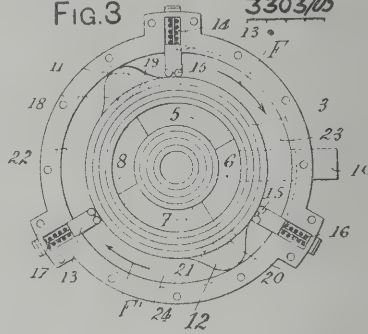
3303. 1 June. C. Lecaine, Ambarés (Gironde), France, engineer.

Annular chamber motor or pump.

Classes 67.7; 74.7.

The central disc **3** has two cam-pistons **11, 12**, which thrust back the three radially-sliding abutments **13, 14, 15** in turn; the disc has rib-and-groove packing with the side plates of the annular chamber, and is divided by cross partitions in its interior having ports **18, 19, 20, 21** near the cam pistons, that co-act with ports in opposite faces of the chamber, giving the equivalent action to six single-acting cylinders at 60 degrees phase.

FIG. 3 3303/05



The steam or fluid is admitted at one side of the chamber and exhausted at the other, and the direction may be reversed by a four-way plug rotated 90 degrees by a hand lever.

The reversed-motor may be used as a liquid pump or air-ventilator, &c.

6 typed pages, 4 claims; 1 fol. drg., 5 figs.

3304. 1 June. *Prov. only.*

J. H. Warren, 217 Bridport-street, Albert Park, Vic., engine-driver.

"Apparatus for preventing trains overrunning signals and for indicating such signals on the engine."

Classes 96.2; 96.6.

3305. 2 June. E. Moss, Christchurch, N.Z., mechanic.

Letter franking by periodical payments.

Classes 54.3; 55.5; 55.7.

This machine may be adapted to any currency; for British use, the machine is unlocked by the insertion of a sovereign (or equivalent token) and the various postages are totalized by a wheel **26** with 240 teeth which re-locks the operating slide **5** at the end of each revolution, but if an operator desires to frank a 4d. or 6d. letter, when there is a less balance available on the wheel, the machine allows him to obtain credit for one such letter, and the wheel is locked in a position to deduct the advance from the credit of the next sovereign inserted; it is, however, proposed to limit the use of the machines to bankers and persons of good credit.

The letters, &c., are inserted in the gap at the base in Fig 2 after setting an external pointer to the desired postage; on pulling the lever 2, one of the dies 19 is depressed, and the interposed ink ribbon marks the postage paid, and simultaneously advances the totalizing wheel **26** by the amount set on the front dial.

Fig. 2

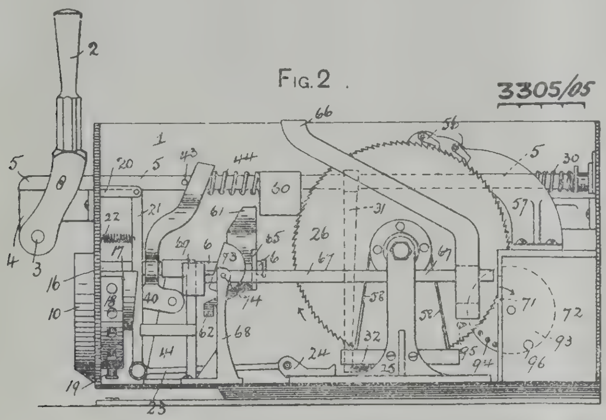
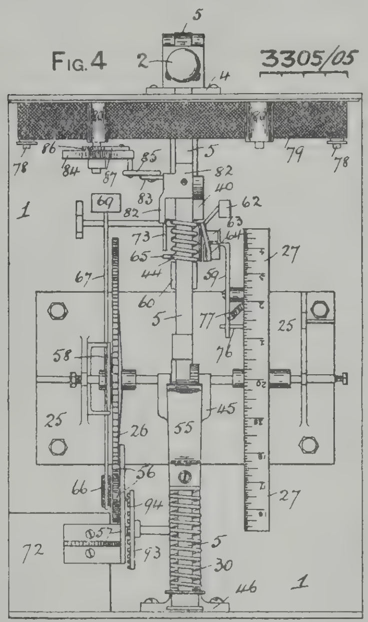


Fig. 4

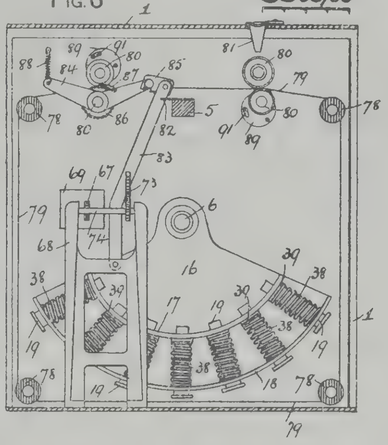


In the example there are seven dies **18**, Fig. 6, for values of ½d. to 6d., arranged on a sector frame **16** which is set by the external pointer to bring the desired die under the plunger lever **40**, Fig. 2; a cam **17** on the sector adjusts the position of the stop block **24** for the elastic stroke of the feed pawls of the totalling wheel 26; the pawls are doubled to reckon halfpence on the 240-wheel and are attached to a swinging feed frame (on the wheel axis) pulled by a spring **32** from the arm **31** on the slide **5**; overrunning by inertia is prevented by a friction band **58** on the hub of the wheel 26.

Repeated imperfect strokes of the slide **5** are prevented by attached reversed racks, which move under a double reversible fly-over detent.

On the same axis as wheel **26**, a graduated wheel **27**, Fig. 4, is exposed through the case and indicates the value expended; on one arm of this wheel a pawl is pivoted which contacts with the swinging controller **61** to **65**, and moves its point **61** into the path of the block **60** on the slide **5** to prevent its motion after the money is exhausted; if the last impression exceeds the balance available, the spring attachment of the pawl allows the block **60** to pass before the point **61** is interposed, but the feed frame makes the full stroke, and moves the wheel **56** past its zero. The insertion of a further coin in the shoot **66** depresses a weighing lever **67** and releases the locking controller **61–65**. The total number of coins inserted is shown at the hole **96** by the counter wheel **93**.

Fig. 6



The ink-ribbon **79**, Fig. 6, is led around rollers **78** and feeds a cam plate **82** and rock-lever **84** past inky rollers **80**.

18 letterpress pp., 16 cls.; 7 fols. drgs., 18 figs.

3306. 1 June. *Prov. only.*

C. Murnane, Moregate-street, Blackfriars, Sydney, N.S.W., agricultural machinist.

"Improvements in attachments for chaff cutters and other machines, for feeding and other purposes."

Class 10.7

3307. 2 June. T. Ballinger, 32 Victoria-street, Wellington, N.Z., plumber, and W. Milligan, Barker-street, Wellington, N.Z., plumber.

Bracket and tie for eaves gutters.
Classes 78.9; 81.4.

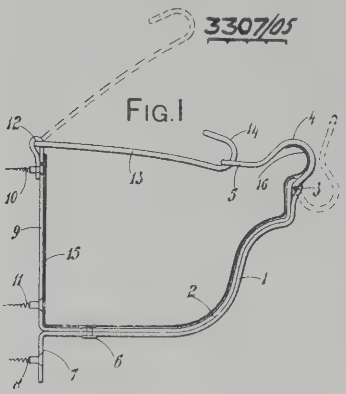


Fig. I

A strip of doubled hoop-iron **1** is moulded to the contour of the gutter with eyes or loops at **3** and **12**. The bracket is attached by screws **8**, **10**, **11**, and stayed across the top by a wire-hook **13** and wire-eye **4**.

4 typed-pages, 3 claims; 1 fol. drg., 3 figs.

3308. 2 June. G. and J. T. Rawling, Warracknabeal Foundry, Tarrant-street, Warracknabeal, Vic., agricultural implement makers.

Multiplying gear for winnowers.
Classes 32.3; 32.6; 62.7.

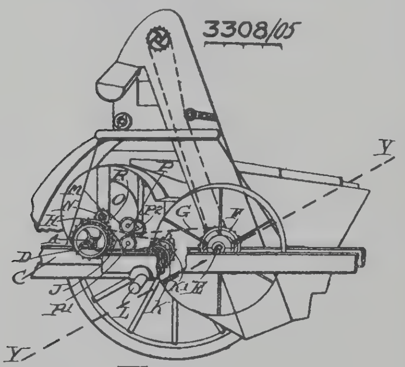


Fig. 1.

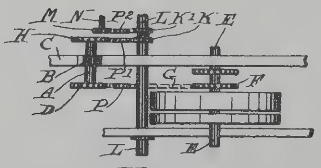


Fig. 3.

To obtain greater accessibility for lubrication and repairs, the winnower is driven by chain-gears **F**, **G**, **D**, through an intermediate spindle **A** and chain gears **H** to **K**; the spindle **A** runs in a bearing **B** attached to the main beam **C**. To prevent sagging the chains are supported by idle rollers **P**, **P1**, **P2**, on adjustable slotted brackets.

7 typed pages, 2 claims; 1 fol. drg., 5 figs.

3309. 2 June. R. Seeman, Ealing, London, Eng., merchant.

Application under Sec. 7.

Qld.	... 6375 ...	12 Dec., 1901
W.A.	... 3681 ...	12 Dec., 1901
N.S.W.	... 11,639 ...	23 Dec., 1901
S.A.	... 7474/5539 ..	4 Jan., 1902
Vic.	... 19,334 ...	4 June, 1902

Leaching copper ores with ammonia; plant.
Classes 08.9; 14.1; 14.7.

Four similar earthenware bottles **A** to **D**, strengthened by bands, are used, **B**, **C**, **D** being on trunnions; the connecting tubes have union joints easily disconnected. The uppermost vessel **B** is detached and charged with oxide or carbonate ores and liquor ammonia and revolved on the short horizontal axis to accelerate the solution; after a short rest the muddy solution is run off the gangue into the vessel **C** and settled, the clear liquor going to the vessel **D**, and the sediment in **B** is shaken up, run out, and treated by any process suitable for complex ores; a filter tank may be interposed between the vessels **C** and **D**.

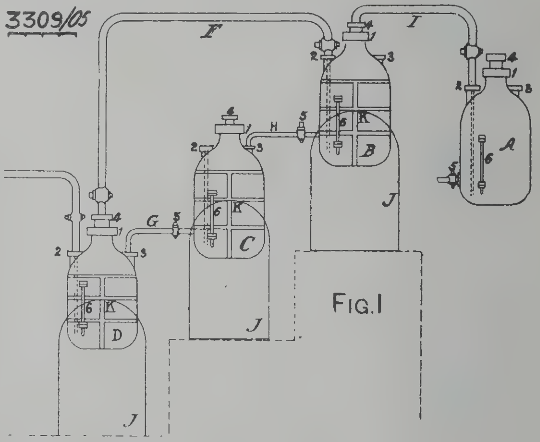


Fig. I

The ammonia, which is volatilized by injection of steam in **D**, is carried off for recovery by condensation in the vessels **B** and **A**, for use with the next charge, additional ammonia being added to replace loss ; by means of water-gauge tubes **6** the disappearance of the blue colour can be noted when the cupric oxide is settled, and the liquor decanted for further leaching, &c.

Any ammonia blowing through the vessel **B** is washed out in **A** ; or a separate ammonia condenser may be used. Fixed vessels with mechanical stirrers and other modifications may be substituted.

5 typed pages, 1 claim ; 1 fol. drg., 1 fig.

3310. 2 June. *Prov. only.*

G. B. H. Austin, "Southwood," Inkerman-road, Caulfield, Vic., architect.

"Improved sliding bar on ladder of rifle sight."

Class 89.5.

3311. 2 June. *C.a.P.* 2 Apr., 1906.

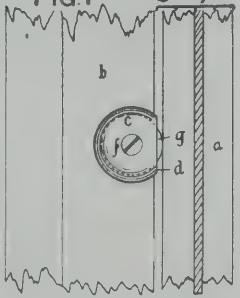
W. G. Stevenson, Farrant-street, Prospect, S.A., coachtrimmer.

Sash anti-rattler wheel and cover.

Classes 78.6 ; 78.7.

A rubber wheel **g**, having a central hard bush to run on the shank of a screw, is used to prevent the rattling of window or door sashes ; it is fixed to the frame **b** by a single screw **f**, which also holds a domed metal cover **c**, within which the wheel **g** works freely ; one side of the dome at **d** is cut away to allow the wheel **g** to project against the sash **a** ; the dome is kept from turning by a serrated edge which is pressed into the timber by the screw.

Fig. I 3311/05



Prov. 2 typed pages.
Comp. 4 typed pages, 4 cls. ; 1 fol. drg., 4 figs.

3312. *Prov. only.*

G. McMullen and G. T. Poole, Barrack-street, Perth, W.A., architects.

"Construction for the automatic heating of rooms of buildings."

Class 81.6.

3313. 2 June. *C.a.P.* 25 Oct.

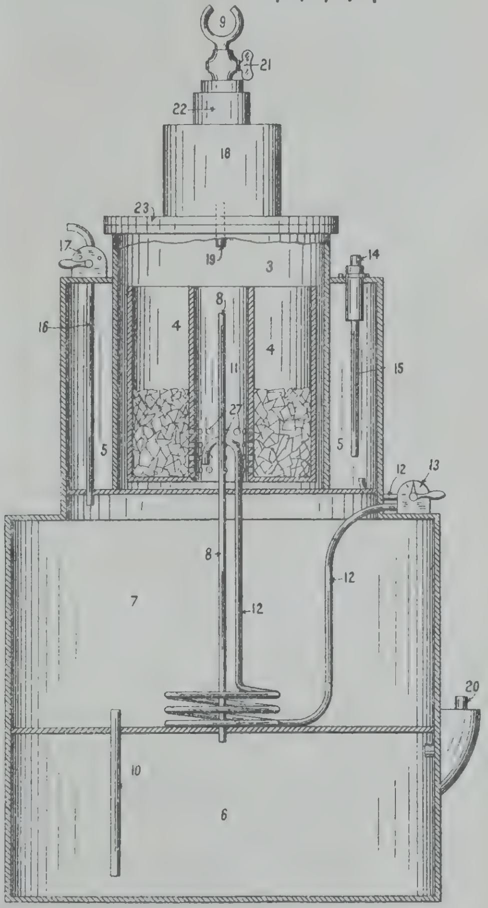
T. H. Hawkins, "Iroquois," Macleay-street, Potts Point, Sydney, N.S.W., engineer.

Acetylene table lamps, &c.

Classes 21.6 ; 21.81.

The lamp has four cylindrical chambers ; the uppermost one **18** is a purifying chamber ; next below is an annular water chamber **5** surrounding the carbide chamber **3** ; below again are two chambers **6**, **7** forming a displacement gasholder ; the carbide holder is a vertical cylinder **4** with a perforated central tube ; the water from **5** is regulated by the cock **13**, and passes by the tube **12** to the carbide holder.

Fig. I. 3313/05



When the light **9** is put out by closing the tap **21**, the pressure returns the surplus water by the pipe **12** to the store **5**, and the gas passes down the pipe **8** to the gasholder **6**, displacing the water which rises into **7** ; after filling **6**, any surplus gas passes out to waste at **17**.

A modification has the chamber **7** extended by a second annular belt outside **5**.

Prov. 6 typed pages ; 2 fols. drgs., 2 figs.
Comp. 7 typed pps., 4 claims ; 2 fols, drgs., 2 figs.

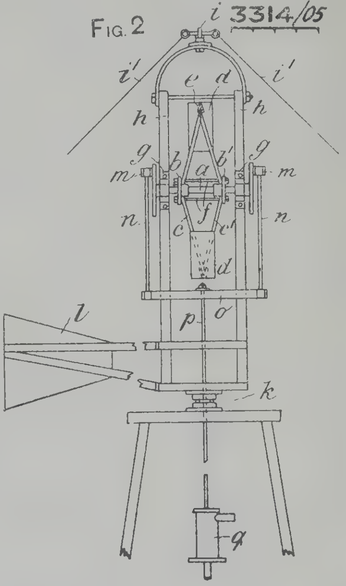
3314. 2 June. *C.a.P.* 28 Dec.

Catherine J. McMaster, Corfield, N. Qld., grazing farmer.

Wind wheel, and windmill head.
Classes 90.7; 97.2.

The wind wheel has usual vanes **d** supported on a flexible or rigid rim **e** formed of wire or hemp rope, flat or angle-iron, &c.; the rim is stiffened in tension by pairs of spokes **c**, **c1** in compression, the feet at the hub being drawn together between flanges **b**, **b1** by the bolts **f**. The same construction may be used for other wheels or pulleys.

Fig. 2



The wheel is mounted in a vertical turntable frame **h**, supported at the foot on ball rings **k**, and at the top by a swivel **i** held by guy ropes **i1** having sufficient spread to clear the rudder **l**. The power axle **a** may be coupled to the pump rod **p** by a pair of cranks **m** and links **n** with a cross head **o1**; or alternatively other gearing may be used.

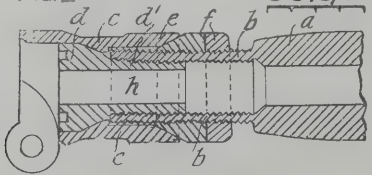
Prov. 3 *typed pages.*
Comp. 4 *typed pages,* 2 *clms.;* 1 *fol. drg.,* 4 *figs.*

3315. 2 June. J. R. Sellenger, 8 Reserve-street, Neutral Bay, N.S.W., engineer.

Adjustments for shearing machine spindles.
Classes 37.6; 62.8.

To eliminate longitudinal shake in sheep shears at the wrist joint collar of the main spindle, the tubular end **b** of the casing **a** is screwed both inside and outside; the total length between the spindle collars is adjusted by screwing the sleeve **h** in or out as necessary, carrying with it the knuckle joint **c**; the outer cone **e** is then screwed outward to lock the parts at the double coned surfaces on **c**, and is itself secured by the outer lock nut **f**.

Fig. 2



4 *typed pages,* 2 *claims;* 1 *fol. drg.,* 2 *figs.*

3316. 2 June. R. H. Easdown, Mount McDonald, N.S.W., postmaster.

Decoy trap for rabbits, &c.
Class 38.6.

An enclosure **l**, Fig. 3, has double fences **m**, **m'** about two feet apart, the narrow space between being sown with barley or other attractive crop; the space is bridged by several entrance passages **o**, each of which has a pair of flap end doors and a platform between them.

Fig. 2

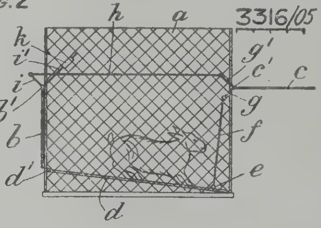
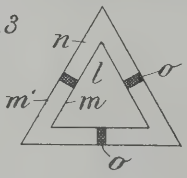


Fig. 3



In Fig. 2 the rabbit has just entered from the left, and its weight on the platform **d** (hinged at **d1**) has depressed the end **e**, lifted the inner flap door **c** by the link **f**, allowing the rabbit to enter the inner enclosure.

The outer flap door **b** is also hinged at the top and is connected to the door **c** by the cranks and horizontal link **h**, so that as one door opens the other shuts.

When the rabbit enters the inner enclosure the loaded arm **k** shuts the inner door **c** and opens the outer door **b** ready for another rabbit.

5 *typed pages,* 3 *claims;* 1 *fol. drg.,* 3 *figs.*

3317. 3 June. T. C. Hement, Hereford-street, Christchurch, Canterbury, N.Z., plumber.

Application under Sec. 7,

N.S.W. ... 13,837 ... 28 Jan., 1904.

Forming seamed joints in sheet metal pipes.
Classes 73.2; 73.8.

A rectangular block **1**, mounted on gudgeons **3**, in end frames **18** has several longitudinal grooves in its four faces for forming pipes on mandrels of different diameters. The groove of the desired size is turned uppermost and a mandrel **8** is held down by several clip bars **15**; each mandrel has three grooves, one a narrow bending groove inclined about 45 degrees to the radius of the mandrel, and the two others respectively a deep and a shallow groove the width of the folded seam.

The sheet cut to the width of the gross circumference of the proposed pipe has its edges bent in opposite directions in the narrow groove; then one fold is placed in the deep wide groove, and the sheet is wound around by rotating the mandrel in the guide of the block. The end clips are loosened and the pipe drawn off and replaced with the interlocked folds in the shallow groove, in which position it may be closed, and afterward soldered if desired.

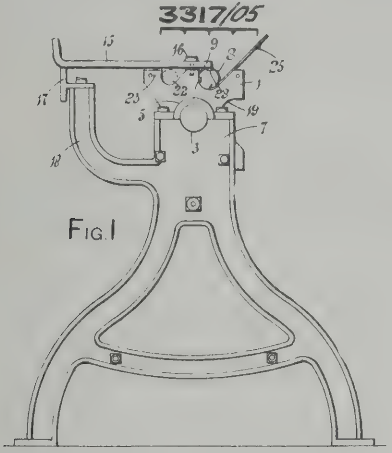


Fig. 1

5 typed pages, 3 claims; 1 fol. drg., 10 figs.

3318. 6 June. *Comp. lapsed.*

O. C. Ochs, 111 New South Head-road, Paddington, N.S.W., coach builder.

"An improved adjustable hub brake for vehicles."

Class 93.3.

3319. 6 June. *Prov. only.*

W. H. Harvey, Kureelpa, *viâ* Nambour, Qld., cane-grower.

"Cane binder, also clasp and band."

Class 33.1.

3320. 6 June. *Prov. only.*

W. G. G. Grear, 51 Henderson-street, Fremantle, W.A., ironworker.

"Grear's patent spring hoop hair pad for ladies."

Class 43.7.

3321. 6 June. *Comp. lapsed.*

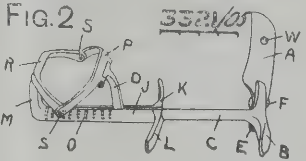
D. M. McLeod, O'Halloran Hill, S.A., farm foreman.

Cutting and tailing lambs, &c.

Classes 37.1; 87.4.

To obviate the use of the lamb-marker's teeth as pincers for drawing the testicles, the combined cutting knife **A**, and attached spring clamps are used in the right hand, leaving the left hand free to manipulate the animal.

Fig. 2



The clamp jaws **R**, **P** are hinged to the frame **M** and slider **D**, and also pivoted at **S**. The slider **D** is forced out by a spring **O** inside the tubular frame **M**, and the jaws are compressed to seize the testicles by compressing the handles **K** and **B** between the fingers and the palm. Thus, the instrument may be continually held, and the knife **A** and clamps **R**, **P** used alternately in the customary manner.

For carriage the knife may be folded back, covered by a detachable sheath, and the clamps compactly locked by a screw.

7 typed pages, 6 claims; 1 fol. drg. 5 figs.

3322. 6 June. *Prov. only.*

J. J. Shuttleworth, "Lauriston," Ryde, N.S.W., architect.

"Improvements in guarantee fastenings for packages, boxes, and other receptacles."

Classes 54.3; 77.7.

3323. 6 June. H. R. Perry, *act. inv.*, Rainbow, Vic., carpenter, C. A. Perkins, *assignee*, Rainbow, Vic., farmer, and Winfred G. Perry, *assignee*, 4th-avenue, East Adelaide, S.A., manager.

Preserving eggs.

Class 35.9.

Eggs are preserved by packing in tins or airtight vessels with bran or other dry packing containing one per cent. or more of alum. A layer of chaff is placed at bottom of vessel to act as a cushion.

3 typed pages, 3 claims. No drawing.

3324. 6 June. W. J. Hall, Ultimo-street, Sydney, N.S.W., general manager N.S.W. Shale and Oil Co. Ld.

Shale-oil retorts; by-products.

Classes 08.5; 09.3; 16.2; 20.6; 21.1.

To enable the liquid hydrocarbons, and nitrogenous by-products from oil-shale to be obtained by continuous operation in one retort, the retorts are arranged vertically in banks, as in section Fig. 3. Heat is applied only to the lower portion **B** by external heating flues in which the non-condensible hydrocarbons are burnt; the high temperature here drives off the nitrogenous products, which, rising upward, cause the volatilization of the hydro-carbons from the upper part **A**, the vapours being drawn off by exhaustion and treated in the usual manner.

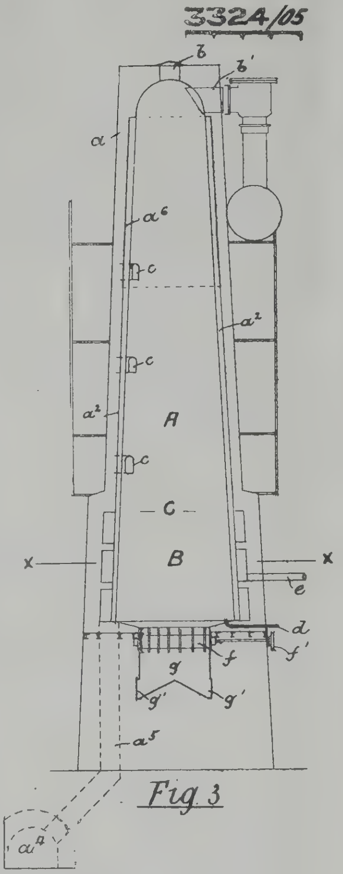


Fig 3

The shale is fed continuously at the top, is heated gradually as it descends, and is drawn out as spent ash, by the revolving rollers **f**, **f**, into the ashpit **g**.

7 MS. pages, 4 claims; 2 fols. drgs., 6 figs.

3325. 6 June. *Comp. lapsed.*

M. Stobbs, 121 Bridge-road, Glebe, N.S.W., engineer.

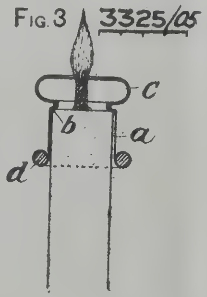
Guttering guard for candles.

Class 22.1.

Candle guards which slide downward as the wax is consumed are weighted at the lower rim **d**, and have an upper cup **c** with constricted mouth to hold the melted wax, &c.

4 typed pages, 3 claims; 1 fol. drg., 3 figs.

Fig. 3



3326. 6 June. *Comp. lapsed.*

A. Russell, Toowoomba, Qld., watchmaker.

"Improved adjustable vernier wind gauge backsight for rifles."

Class 89.5.

3327. 6 June. *Prov. only.*

H. Berry, Bowen Vale, Maryborough, Vic., engineer.

"An improved knife cleaner."

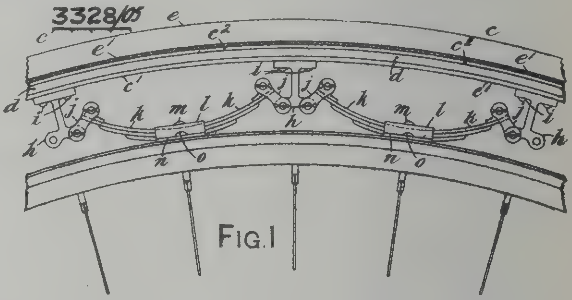
Class 75.2.

3328. 6 June. Rose Basch, wife, and S. Basch, both of 71 New Bond-street, London, Eng.

Elastic wheel with cushion tyres.

Classes 97.6; 97.81.

The wheel has two rims, an inner rim to which the spokes are attached and an outer one of larger diameter; the rims are connected by leaf springs **k**, bolted to the outer surface of the inner rim, their free ends **j** being linked to brackets **h** inside the outer rim.



The outer rim has two bands of flexible steel, **c1**, **c2**, with interposed rubber **d**, and an external solid rubber tyre **e**.

Wire springs with spiral hinges may be substituted for the leaf springs.

7 typed pages, 3 claims; 1 fol. drg., 4 figs.

3329. 6 June. *Comp. lapsed.*

H. Simpson, *act. inv.*, 10 Crooked-lane, lamp manufacturer, Robert Thomlinson, *act. inv.*, 39a South Castle-street, ship broker, Simpson Automatics Limited, *assignees*, 20 and 22 Wellington-street, manufacturers, all of Liverpool, Lancashire, Eng., and William Rio Symons, *assignee*, 18 Falcon-road, Birkenhead, Cheshire, Eng., electrical engineer.

Thermo-motors for fire alarms, sprinklers, &c.

Classes 00.7; 88.2; 99.7.

The thermometric motor, Fig. 1, follows G.B. 22,666/*00* and has a pair of telescoping tubes **4**, **5** enclosing a rubber tube **3** full of fluid, which can thus produce (by expansion) only axial motion; the motor is duplicated, the set **A** having a long small tube **1a** which has small hydraulic mean depth and will change its temperature rapidly, and the set **B** which is more sluggish, having a compact reservoir of fluid **1b** which is moreover enclosed by the case **6**; the set **A** has also the flexible capsule **2** which may transmit motion from a fluid in **1a** that would be prejudicial to the rubber tube **3**. The double set **A** and **B** enable the apparatus to act under a greater variety of circumstances than if only one thermo-motor was used; the single or differential motion may directly release a weighted lever that turns on the water, &c., to the sprinklers, and rings an alarm, but preferably the action is electrical, as in Fig. 8.

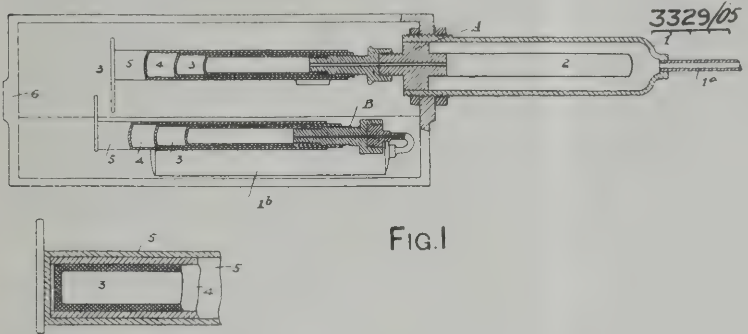


Fig. 1

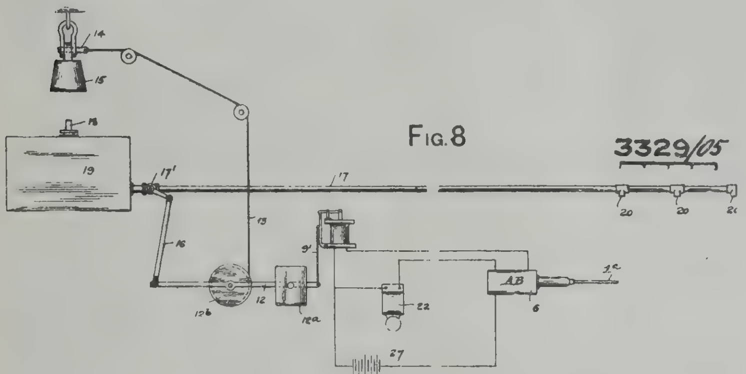


Fig. 8

The motion of the thermo-motor **AB** closes contacts which ring the bell **22**, and later releases the solenoid trigger **9′** and drops the weight **12a**; the weight turns the tap **17′** connecting the sprinklers **20**, and pulls the bolt **14**, dropping the weight **16** on the striker **18**, thus determining the mixture of the gas producing chemicals.

9 *typed pages*, 6 *claims*; 4 *fols. drgs.*, 10 *figs.*

3330. 7 June. *Prov. only.*

W. Morrison, 63 Primrose-street, Moonee Ponds, Vic., bootmaker.

"An apparatus for preventing dirt, dust, and the like from entering household water tanks, wells, and the like."

Class 83.1.

3331. 7 June. *Prov. only.*

T. J. Heskett, 2 Donald-street, Brunswick, Vic., engineer.

"An improved process of and apparatus for obtaining metals from their sulphides."

Classes 15.4; 16.30.

3332. 7 June. *Prov. only.*

W. Haslam, 94 George-street, Fitzroy, Vic., mechanic, R. Lewis, and G. Vincent, 133 Flinders-lane, Melbourne, Vic., manufacturers.

"Multiple speed driving gear for bicycles, other velocipedes, motor cycles, cars, and the like vehicles."

Classes 94.7; 95.9.

3333. 7 June. *C.a.P.* 23 Nov.

J. B. Marshall, Wyman-street, Broken Hill, N.S.W., engineer.

Anti-cushioning ports in Ingersoll drills.

Classes 65.9; 85.4.

To reduce the cushioning in Ingersoll "Eclipse" rock drills, the usual annular recess between the packing rings on the piston is divided into two sections, a wide recess **A** graduated in depth from the striking end backward to the deepest part, and a narrow deep recess **B**; thus the shallow part of the clearance prevents sudden reversal before the blow is effectually delivered.

Prov. 4 *typed pages.*
Comp. 4 *typed pages,* 3 *claims;* 1 *fol. drg.,* 1 *fig.*

3333/05

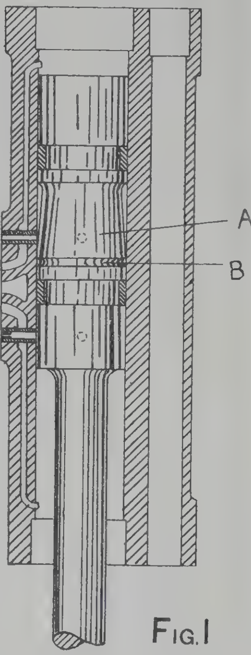


Fig. 1

3334. 7 June. *Prov. only.*

C. W. Watson, "Locksley," Scott-street, Canterbury, Vic., engineer.

"Method of and apparatus for obtaining selected constituents from complex material."

Class 12.5.

3335. 7 June. *C.a.P.* 22 Aug.

T. T. Willis, Westland, Longreach, Qld., boundary rider.

Slackening fence droppers.

Class 81.8.

3335/05

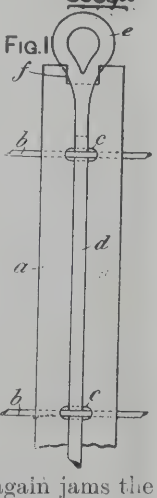


Fig. 1

To enable fence droppers of corrugated sheet metal to be quickly slackened for straining, or for removal, they are locked to the fence wires **b** (that pass across the slots **c**) by the vertical rods **d** having top eyes **e** and a flat side transversely to the eye.

When the rod is lifted slightly and turned with the eye transversely the flat comes against the wires, which are then slack and in condition for straining.

After re-straining the wires, the reverse motion of the rod **d** again jams the wires against the dropper, and when the eye is pushed down into the recess **f** on the dropper the rod is held against accidental slackening.

Prov. 3 *typed pages;* 1 *fol. drg.,* 4 *figs.*
Comp. 4 *typed pages,* 2 *claims.*

3336. 8 June. *C.a.P.* 7 Mar., 1906.

H. Cliff, J. C. Bunting and F. E. Cliff, 27 Blackwood-street, North Melbourne, Vic., agricultural implement manufacturers.

Chaff-cutters; knife wheel attachments.

Class 10.7.

To facilitate the exchange of blunt knives in travelling chaff-cutters, and to improve the stability of the knife-wheel, the ordinary means of detachment, consisting of an overhung wheel secured on the spindle end by lock nuts, are replaced as in Fig. 1.

3336/05

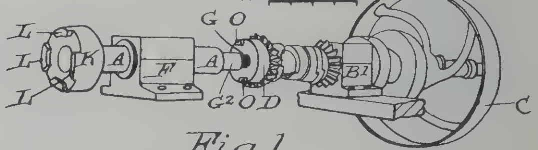


Fig. 1.

B1 is the usual outer bearing of the main knife-wheel shaft, ending in a flange **D** having projecting studs **O** and a central female screw; **F** is an extra pedestal outside the knife wheel in which a short shaft **A** may rotate and be drawn back in the direction of the arrow to allow the insertion of interchangeable knife wheels, whose bosses fit on the studs **O** and are held in place by screwing up the shaft **A** by means of the capstan head **KL**; the neck **G2** on shaft **A** fits the bores of all the knife wheels.

Prov. 6 *typed pages.*
Comp. 8 *typed pages,* 3 *clms.;* 1 *fol. drg.,* 3 *figs.*

3337. 8 June. *C.a.P.* 8 Mar., 1906.

A. Wolskel, Yarra-bank, South Melbourne, Vic., technical chemist.

Conveying melted asphalt in jacketed vessels.

Classes 18.7; 81.7.

The asphalt is melted at a depôt, and placed in insulated cylindrical cases which may be tightly closed by jacketed covers.

The cylinders are carted to the place of operation, where they are stirred before emptying by a detached propeller blade fixed on a vertical shaft and rotated by a handle, the cases being temporarily held on a wooden frame.

Prov. 4 *typed pages.*
Comp. 6 *typed pages,* 2 *claims.* *No drawing.*

3338. 8 June. *Prov. only.*

V. C. J. Nightingall, 265A Post Office-place, Melbourne, Vic., electrical engineer.

"An improved means of igniting gas burners by electricity."

Class 22.8.

3339. 8 June. *Prov. only.*

T. J. Heskett, 2 Donald-street, Brunswick, Vic., steel founder.

"Improved process for production of zinc and other volatilizable metals from sulphide ores or material containing the same."

Classes 15.5; 15.6.

3340. 8 June. *Prov. only.*

T. J. Heskett, 2 Donald-street, Brunswick, Vic., steel founder.

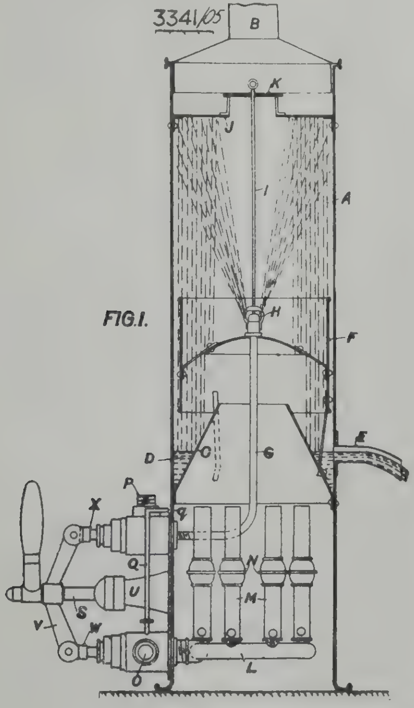
"Improved process and apparatus for the production of zinc and other volatilizing metals from sulphide ores or material containing the same."

Classes 15.5; 16.33.

3341. 9 June. *C.a.P.* 2 Mar., 1906.

W. H. Hannam, Castlereagh-street, Sydney, N.S.W., manufacturer.

FIG.I.



Bath heater; spray in lamp gas.
Classes 23.1; 24.5; 74.7.

The spray nozzle **H** throws the water through the flame gases from the bunsen burners **M** against the plate **J**, from which it falls and is collected around the cone **C**, and runs out by the delivery pipe **E**; the circular baffle plate **F** prevents the gases coming in contact with the lower part of the casing **A**; the bunsen burners **M** have wire gauze diaphragms at **N** to prevent back-firing, and **Q** is the usual pilot supply pipe.

Both the gas valve **X** and the water supply valve **W** are operated by the same handle, having a quick pitch screw **S** in the standard **U**; the gas valve is spring closed to delay its opening until the water valve is opened, and also to close it before the water is stopped.

Prov. 3 *typed pages;* 2 *fols. drgs.,* 3 *figs.*
Comp. 5 *typed pages,* 5 *claims.*

3342. 9 June. H. House, 687 to 691 Elizabeth-street, North Melbourne, Vic., implement importer.

Sieves for mixed grain.
Classes 11.3; 32.6.

To separate grain seeds of different species (such as wheat from barley, or oats, &c.) the sieves are constructed of assembled tubular passages having a sharp bend or elbow (as Fig. 1). The passages may be formed of mitre-jointed tubes, of associated corrugations in sheet metal strips, or otherwise, and are mounted in suitable wooden or metal frames mounted for horizontal shaking and occasional vertical jigging.

Fig.1

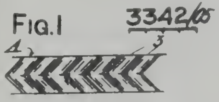
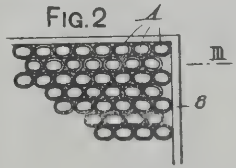


Fig.2



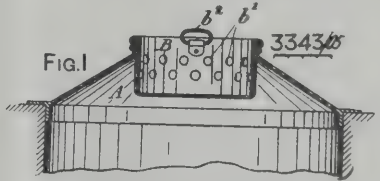
For complex mixture and dirty grain several sieves of different grades may be superimposed.

5 *typed pages,* 5 *claims;* 1 *fol. drg.,* 5 *figs.*

3343. 9 June. T. W. and J. T. Palmer, Warracknabeal, Vic., plumbers.

Strainer for rain-water tank.
Class 83.1.

Fig.I



A shallow circular perforated tray **B** having a pair of ring handles **b2**, fits into a hole in the top of a rain-water tank; the tray is filled with charcoal (or other material) and receives the water from the down pipe.

3 *typed pages,* 2 *claims;* 1 *fol. drg.,* 2 *figs.*

3344. 9 June. *Prov. only.*

J. H. DAVIS, Waranga Outlet Works, Waranga, Vic. engine-driver.

"An instantaneous coupling for fire hose and the like."

Classes 74.5 ; 88.1.

3345 9 June. *Prov. only.*

G. CLEMENTS, works manager, D. URQUHART engineer, M. EVANS, woolclasser, C. SLOPER, snowman, and T. M. CORLET, tanner and currier, Timaru, N.Z.

"Improved means for depilitating hides."

Class 47.2.

3346. 9 June. *Prov. only.*

T. S. PHILPOTT, *act. inv.*, Riddiford-street, Newtown, Wellington, N.Z., saddler, and W. J. BRANIFF, *assignee*, Wilson-street, Newtown, Wellington, N.Z., carpenter.

"An improvement relating to windows for facilitating the cleaning and repairing of same."

Classes 78.7 ; 81.5.

3347. 9 June. *Prov. only.*

J. SMITH, Westport, N.Z., blacksmith.

"Improved drill for boring coal and the like."

Class 85.7.

3348. 9 June. R. W. ASHCROFT, *act. inv.*, Dawson-street, Pahiatua, N.Z., plumber, S. ASHCROFT, *assignee*, High-street, Dannevirke, N. Z., company manager, M. MORGAN, *assignee*, Dannevirke, N.Z., ironmonger, A. WEBBER, *assignee*, Dannevirke, N.Z., ironmonger, and A. C. POCOCK, *assignee*, Dannevirke, N.Z., plumber.

3348/05

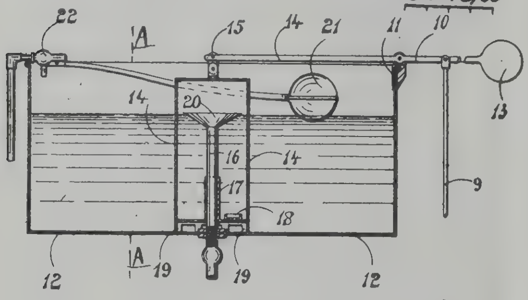
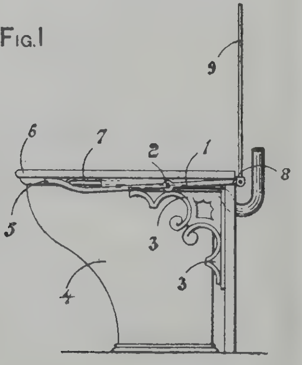


FIG. I



Seat operated closet flush.

Classes 86.2 ; 86.3.

The siphon bell **14** of the flush cistern is normally lifted by the weight **13**, and the spring **7** and lever **1** also lift the seat **6** ; the siphon bell has a piston bottom with valve **19**, and is filled with water when the seat is depressed, so that when the seat is again released the bell also rises and flushes the closet pan.

5 *typed pages*, 3 *claims* ; 2 *fols. drgs.*, 4 *figs.*

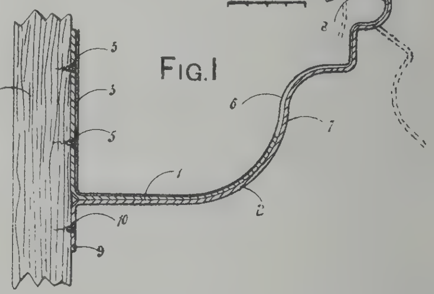
3349. 9 June. R. W. ASHCROFT, *act. inv.*, Dawson-street, Pahiatua, N.Z., plumber, S. ASHCROFT, *assignee*, High-street, Dannevirke, N.Z., company manager, M. MORGAN, *assignee*, Dannevirke, N.Z., ironmonger, A. WEBBER, *assignee*, Dannevirke, N.Z., ironmonger, and A. C. POCOCK, *assignee*, Dannevirke, N.Z., plumber.

Hoop-iron eave-gutter bracket.

Class 78.9.

Eave brackets made of two pieces of hoop-iron have the short inner piece **1** provided with screw holes **5** for facility of fixing before the gutter **6** is in position ; the outer piece **7** is then hooked over the bead (as shown in dotted lines) and swung back so that its vertical limb **9** may be fixed by the screw **10**.

3349/05



N.Z. specifications 13,778/*01* (Ballinger) and 14,168/*01* (Hardley) are disclaimed.

4 *typed pages*, 2 *claims* ; 1 *fol. drg.*, 2 *figs.*

3350. 9 June. R. M. CARROLL, Mabel-street, Petone, Wellington, N.Z., engineer.

Pipe and nut wrench.

Classes 72.1; 74.6.

In pincers-type wrenches having a serrated fulcrum movable on a rack to adjust the width of grip, four devices are described for locking the fulcrum block.

In Fig. 2, the inner solid limb **5** having one jaw **7** and the adjusting rack **9** on its under edge, is movable between the flaps of the folded outer limb **1** ; and the opposing jaw **4** is on a block **3** riveted between the folds of **1** ; the fulcrum block **10** has a curved bearing on the block **3** with a virtual centre at **12** ; by pressing the back **1** against the spring **18**, the fulcrum block may be moved past the teeth **9** to the desired width, when, by pushing the slider **17** towards the jaws, its end **24** fills the space **20**, and locks the block during use.

In a second device, the block **10** partly surrounds the limb **5** and the slider **17** is pushed between **5** and the part of **10** above it.

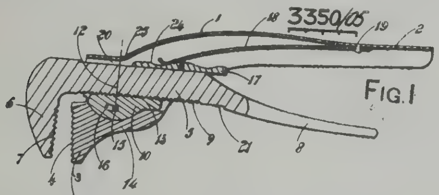


FIG. 1

In a third device, the slider passes through a slot in **5** and has trunnions moving in a curved slot in the flaps of **1**.

In the fourth device, the trunnions are attached to the sides of the block **10**, which is locked by a slider similar to that in Fig. 2.

13 *typed pages*, 8 *claims* ; 4 *fols. drgs.*, 19 *figs.*

3351. 9 June. J. McGuire, 82 William-street, Melbourne, Vic., mechanic.

Hose couplings.
Classes 74.5 ; 97.85.

Fig. 3 shows a double coupling joining two ends of flexible hose, but either half from **a3** may be used to couple a hose to a metallic continuation of **a3**.

The screwed end **a3** has a reduced and tapered continuation **a** with a ribbed surface **a2** over which the hose **b** is stretched ; the hose is compressed into the corrugations **a2** by screwing the tapered ferrule **c** over **a3**.

The invention is applicable to other tubings, and to inflation tubes for pneumatic tyres, &c.

4 *typed pages*, 4 *claims* ; 1 *fol. drg.*, 5 *figs.*

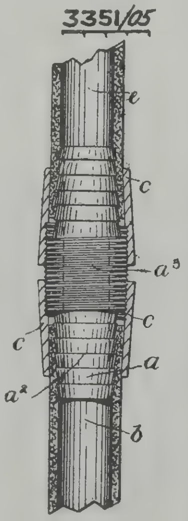


FIG. 3

3352. 9 June. *Prov. only.*

J. W. Rayfield, 117 Bathurst-street, Sydney, N.S.W., engineer.

> "An improved apparatus for ascertaining the liquid contents of an air-tight vessel and enabling the same to be drawn off or increased as may be required."

Class 56.5.

3353. 9 June. *Prov. only.*

J. W. Rayfield, 117 Bathurst-street, Sydney, N.S.W., engineer.

> "An improved apparatus for filing and fastening letters, newspapers, and papers of all sorts."

Class 48.8.

3354. 9 June. *Prov. only.*

C. J. Good, Swan Brewery, Perth, W.A., brewer's clerk.

> "Improvements in cuff protectors."

Class 43.6.

3355. 9 June. *Prov. only.*

Isabella Ferguson, Yarragon, Vic., married woman, and L. Sandy, Yarragon, Vic., storekeeper (*assignees of* J. Ferguson, *act. inv.*, Yarragon, Vic., plumber).

> "Improvements in straining devices located between roofs and tanks or the like."

Class 83.1.

3356. 9 June. L. H. McHardy, Blackhead, Hawkes Bay, N.Z., sheep farmer.

Application under Sec. 7—

Vic. ...	... 21,028 ...	6 June, 1903
Qld. ...	... 7518 ...	6 June, 1903
N.S.W.	... 13,610 ...	19 Oct., 1903
S.A. ...	... 8697/6344 ...	19 Oct., 1903
Tas. ...	... 3942 ...	20 Oct. 1903
W.A. ...	... 4667 ...	28 Oct., 1903

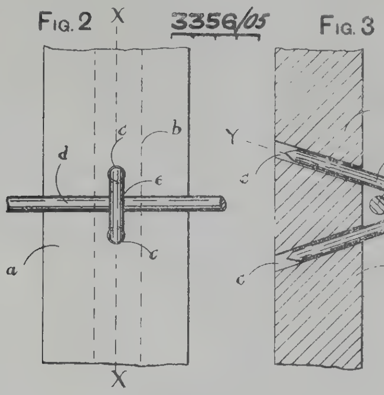
Staple fastenings for metal standards, &c.
Class 81.8.

The metal standard or dropper **b**, having a thickness several times greater than the wire of the staple **d**, has diverging holes **c**, **c** drilled to fit the wire, so that the staple is spread out and locked by driving it into the holes.

The holes may be drilled in the web of a T-section.

4 *typed pages*, 1 *claim* ; 1 *fol. drg.*, 4 *figs.*

(*For drawing see next page.*)



3357. 9 June. *Comp. lapsed.*
L. H. McHardy, Blackhead, Hawkes Bay, N.Z., sheep farmer.

"An improvement relating to fencing standards."
Class 81.8.

3358. 9 June. *C.a.P.* 1 Mar., 1906.
J. Shephard, 268 and 270 City-road, South Melbourne, Vic., water meter manufacturer.

Strainer box for small water meters, &c.
Classes 83.7; 83.9.

To prevent the choking of small water meters, a rectangular strainer box is provided with male and female screwed ends **D**, **C**; a cover **E**, having a recess **J** for packing, is attached by four screws **G**; and a perforated plate **M** sits obliquely on inclined shoulders **I** in the sides of the box.

3358/05

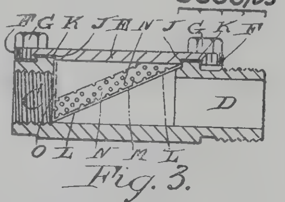


Fig. 3.

If desired, the plate **M** may be turned up across the exit, as at the dotted line **O**.

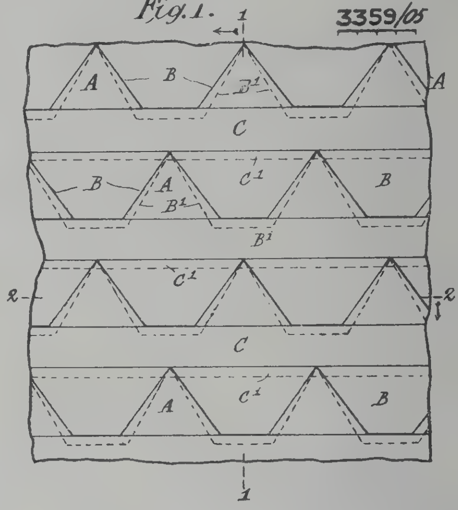
Prov. 5 *typed pages.*
Comp. 5 *typed pages,* 1 *claim;* 1 *fol. drg.,* 6 *figs.*

3359. 10 June. *C.a.P.* 10 Apr., 1906.
H. Trinder, 93 Grant-street, Ballarat East, Vic., traveller, and F. Engeler, 275 Main-street, Ballarat East, Vic., miner.

Riffle tables; undercut pits and grooves.
Class 12.1.

Gold saving tables are furnished with lines of trapezoidal undercut riffle pits **B** arranged in lines with the broad shallow edges on one row alternating with the triangular ribs between the pockets on the next row; between each trapezoidal row is a plain V-groove **C**, **C2** with a deep side lying under the shallow edges of the trapezoids.

Fig. 1. 3359/05



The tables may be used with or without shaking gear.

Prov. 2 *MS. pages,;* 1 *fol. drg.* 2 *figs.*
Comp. 4 *typed pages,* 3 *claims;* 1 *fol. drg.,* 4 *figs.*

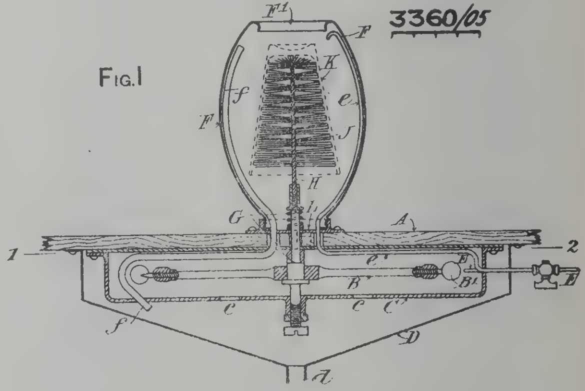
3360. 10 June. W. A. H. Cameron, book-keeper, and J. W. Marshall, watchmaker, Wellington, N.S.W.

Washing drinking glasses.
Classes 25.5; 67.4.

A glass globe or bowl **F** fixed in a socket on a table **A** has a central rotating brush **K**, shaped to fit the class of vessel to be cleaned; the brush is driven by a Pelton or other suitable motor **B**, encased below the table over a sink **D**; water is supplied by the pipe **e** and overflows through the pipe **f**.

3360/05

Fig. I



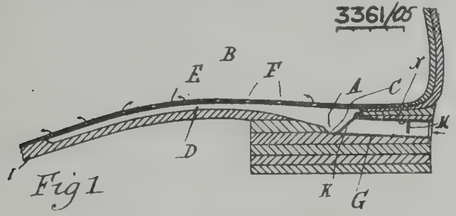
The glasses to be washed are introduced with the mouth downward as shown in dotted outline.

3 *typed pages,* 1 *claim;* 1 *fol. drg.,* 2 *figs.*

3361. 10 June. C. Cocksedge, 143 Oxford-street, Waverley, N.S.W., business manager.

Ventilated boot insoles.
Class 44.3.

The insole **E** has perforations **F** under the instep above air passages **D** communicating by a tube **G** through the heel to the atmosphere, and containing a non-return valve **K**; the action of walking draws air in through the tube and circulates it around the foot of the wearer.



The inlet may be closed or adjusted when desired by a broad headed screw (not shown in Fig. 1) the stem of which is inserted in the lug **N**; or by a plate with sliding projections.

5 *typed pages*, 5 *claims*; 1 *fol. drg.*, 6 *figs.*

3362. 12 June. *Prov. only.*

J. Drane, Sydney, N.S.W., boilermaker.

"Improvements in incubators."

Class 38.3.

3363. 12 June. *Comp. lapsed.*

E. Edwards, Mopong, Cobar, N.S.W., bricklayer.

"New process of making cement."

Class 18.3.

3364. 12 June. *Prov. only.*

M. J. Hooper, 552 Station-street North Carlton, Vic., carpenter.

"Improvements in appliances for raising and supporting a person in bed."

Classes 45.2; 87.3.

3365. 12 June. *Prov. only.*

P. Unkenstein, 253 Johnston-street, Fitzroy, Vic., H. Unkenstein, 408 Bay-street, Port Melbourne, Vic., and O. Unkenstein, 99 Auburn-road, Auburn, Vic., engineers.

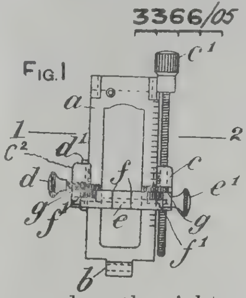
"An improved handle bar adjustable whilst riding a bicycle, tandem, or the like machine."

Class 94.3.

3366. 12 June. W. Dunn, Victoria-street, Kerang, Vic., cycle maker.

Rifle wind-gauge sights.
Class 89.5.

The transverse carriage **c**, **c2** is raised or lowered by the screw **c1** and locked in position by the lateral screw **d** which jams the slip **d1** against the vertical edge of the ladder **a**; the movable transverse bar **e** is adjusted by the screw **e1**, and has two vertical sighting lines **f**, one of which is used with each of the verniers separately engraved on the right and left sides respectively, according to the direction of the cross wind.

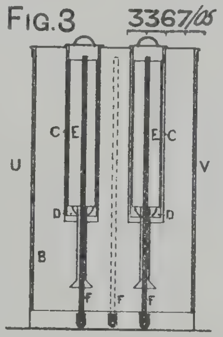


4 *typed pages*, 3 *claims*; 1 *fol. drg.*, 4 *figs.*

3367. 12 June. W. H. Coker, Inglis-street, Ballan, Vic., painter.

Acelytene apparatus.
Class 21.83.

The gasholder bell **B** has large depending tubes **C** (open at the top) in which inner carbide bells **D** (closed at the top), are supported by their upper beadings; a gas tube **F** rises from the bottom of the outer tank **A** into each carbide bell **D**; the carbide holders are semi circular boxes **E** supported loosely inside **D** alongside the pipes **F**.



5 *MS. pages*, 1 *claim*; 1 *fol. drg.*, 4 *figs.*

3368. 12 June. *C.a.P.* 12 July.

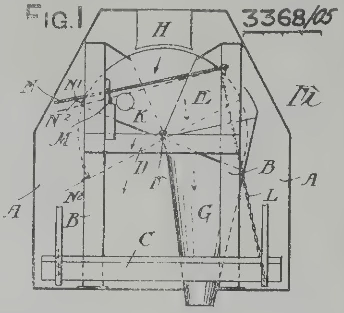
T. Muirhead, Tallangatta, Vic., farmer.

Rainwater separator; tilting shoot.
Class 83.1.

An upper auxiliary tank **A**, above the storage tank has a funnel **G** to carry the clean water; on one edge **F** of the funnel which is centrally under the inlet **H**, a tilting plate is pivoted and provided with cheeks forming a bottomless bascule **E**, which is loaded at **K** and upheld by a trigger rod **N** in the position as Fig. 1, in which the first run of water goes to the left and collects with the leaves and dirt in **A**.

As the tank fills up the float **C** rises, and finally touches the trigger **N**, allowing the bascule to reverse into the dotted position, turning the clean water down **G**.

When the tank **A** is emptied by drawing its plug and flushing out the sediment, the float **C** falls and restores the bascule by the chain **L**.



Prov. 3 *typed pages.*
Comp. 4 *typed pages,* 3 *claims ;* 1 *fol. drg.,* 5 *figs.*

3369. 12 June. *Prov. only.*

G. Keyzer, 198 Nicholson-street, Fitzroy, Vic., bootmaker.

"Improved fittings for attaching rubber or leather top pieces to boots."

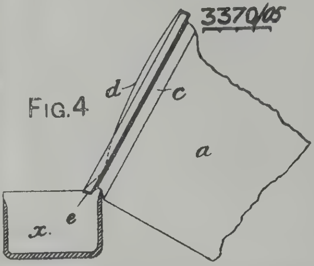
Class 44.3.

3370. 12 June. *C.a.P.* 11 Apr., 1906.

W. R. Quinton, Portland, Vic., tinsmith.

Facilitating soldering of can lids.

Classes 57.5 ; 73.6.



Food canisters to be closed or sealed by soldering the top cover in a bath in the manner illustrated, are provided with a groove or channel **C** rolled in the body just below the cover, which is folded and crimped on after the food is inserted.

Prov. 2 *typed pages.*
Comp. 4 *typed pp.,* 3 *claims ;* 1 *fol. drg.,* 4 *figs.*

3371. 12 June. *Prov. only.*

C. W. K. Vail, 74 Glenferrie-road, Malvern, Vic., jeweller.

"Improvements in bangles and like jewellery."

Class 43.9.

3372. 12 June. *C.a.P.* 11 Jan., 1906.

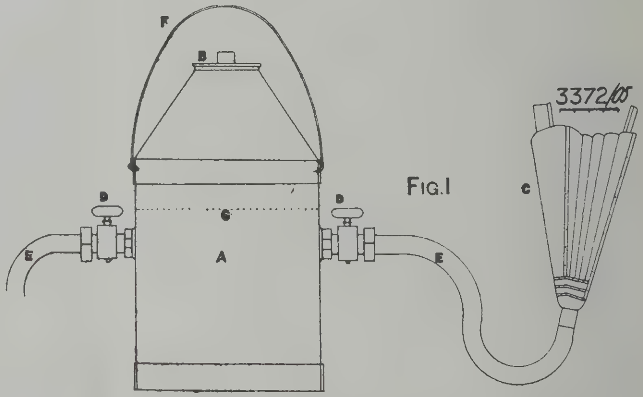
M. McIntyre, 135 George-street, E. Melbourne, Vic., station manager.

Rabbit fumigator.

Class 38.9.

The can **A** has inlet and outlet cocks **D**, a diaphragm of wire gauze **G**, a screw cover **B**, and handle **F**; cotton waste or wool is placed in the upper division, and fumes are driven into the burrow through pipes **E**, **E** by means of bellows **C**.

Prov. 2 *MS. pages ;* 1 *fol. drg. ;* 1 *fig.*
Comp. 2 *typed pages,* 4 *claims.*

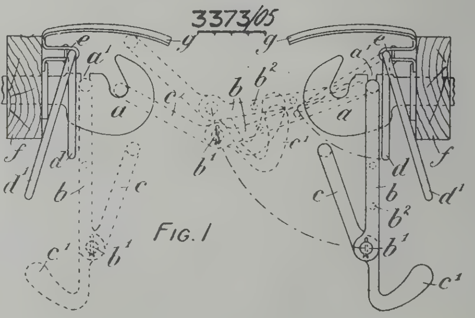


3373. 12 June. H. Rose, Stanmore, N.S.W., rolling-stock inspector, and J. Ritchie, Auburn, N.S.W., engineer.

Car coupling.

Class 96.3.

A counter-weighted coupling link **C**, hangs from the shackle **b** on the draw-bar hook **a**, and is operated by a cranked rock shaft **e** with side handles **d1** ; a shield **g** is fixed to the buffer beam **f** above the hook **a**.



In operation the link **c** maintains a vertical position while the shackle **b** is being lifted by the crank **d**; the point of the link **c** touches the guard **g** (of the opposite car) and slides under it over the hook.

4 typed pages, 2 claims; 1 fol. drg., 3 figs.

3374. 13 June. G. G. Turri, Salisbury Building, 150 Queen-street, Melbourne, Vic., patent attorney (*communicatee of* Durham-Guyon Company, 56 South Jefferson-street, Chicago, Ill., U.S.A., manufacturers (*assignees of* J. L. Guyon, *act. inv.*, 53 North Jefferson-street, Chicago, Ill., U.S.A., manufacturer).

Compositions for polishing bags.

Classes 25.5; 75.1.

The bag **1** of cotton drilling or other closely woven fabric is filled with a mixture of equal quantities of sawdust and whiting, or of emery powder and granulated cork, or other mixture of an abrading substance with a separating substance to prevent agglomeration after wetting.

The bag is dipped in liquid and used for polishing windows or smooth metal surfaces.

Fig. 1. 3374/05

Fig. 2.

5 typed pages, 2 claims; 1 fol. drg., 2 figs.

3375. 13 June. *C.a.P.* 17 Nov. T. P. Rudkins, Mitiamo, Vic., farmer and commission agent.

Lifting gear for strippers.

Classes 32.3; 62.8.

The comb frame is lifted by the segment-rack **s** pinion **r** and worm gear **q**, **p**, **o**; the shaft **o** may be placed vertically and operated by hand, or may be worked by power as in Fig. 2.

The bevel wheel **c**, Fig. 2, is driven from the main axle by chain **b**, and the bevel pinions **e**, **f** run loose on shaft **m** coupled to the shaft **o** by a universally coupled section **n**; the clutch sleeve **h** slides on **m** with a feather key, and is held central or moved to engage either of the bevels **e**, **f**, by the pedal **k**, link **j1** and fork **i**.

Prov. 3 typed pages.
Comp. 6 typed pages, 7 cls.; 1 fol. drg., 3 figs.

(For drawing see next column.)

3375/05

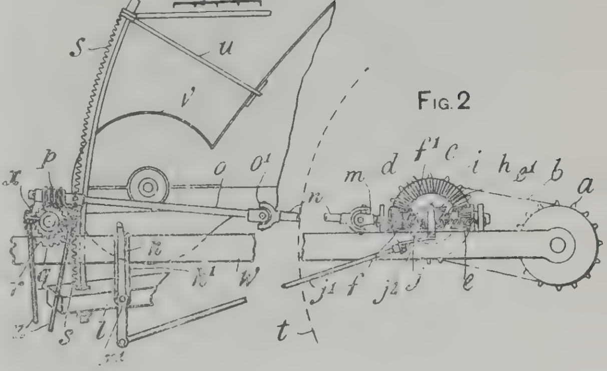


Fig. 2

3376. 13 June. G. G. Turri, 150 Queen-street, Melbourne, Vic., patent attorney (*communicatee of* Automatic Meter Co., Crossley Building, San Francisco, Cal., U.S.A., manufacturers, *assignees of* R. W. Gallagher, *act. inv.*, Montclair Apartments, San Francisco, Cal., U.S.A., electrician).

Ticket perforator for meter.

Classes 04.6; 21.6; 50.7; 54.5; 56.2; 56.5.

In apparatus of the type in 2479/05 developments are illustrated. The perforating parts are enclosed in a box **2**, which is attached to the front of any gas (or other totalizing) meter **1**, by bolts **5**, Fig. 7, so that the integrating spindle **23** and dial gear **26** project into the case **2** behind the glass plate **9**; a plate **29** slides on vertical posts **17** and carries decimal "value" wheels **32**, **33**, **34** for dollars and cents, and also a "month" wheel **38**; the plate **29** is reciprocated vertically by eccentrics **77** and links **80** coupled to the ends of a rod **81** attached to the plate; the eccentric shaft is rotated by a warded turn-key applied to the square **74** by the inspector, who cannot remove the key without returning the plate to its upper normal position.

The upward motion of the perforating plate **29** causes the "month" wheel **39** to change a step, and before the completion of its motion (when a pointer **94** is visible through a hole in the case) the inspector lifts the front cover **11** and inserts another key from the front through the hole **69**, on the idle shaft **97** by which he can wind the "value" wheels **32** to **34** back to zero; the final motion of the eccentric **77** lifts the "value" axle into gear with the dial work **26**, which, by the time of the next visit of the inspector has moved the "value" perforators at the bottom of the wheels to the position corresponding to the gas (or other product) consumed; the motion of the eccentrics has also rocked the lever **104** and fed the roll **117** to draw a fresh length of the triplicate ticket webs **67, 66, 84**, between the perforator **29** and the abutment plate.

At the next monthly visit, the rotation of **77** depresses the perforating plate and forces the pins on the value and month wheels through all three webs into the rubber pads **86** ; after lifting and resetting to zero, two of the webs **66, 67** are projected through the opening **68** and may be torn off, one for the customer and one for the head office, the third web being carried carried around roller **119** and wound up on the roller **115** as a check record ; the roller **117** has a spring friction clutch, Fig. 8, which allows the web to be unwound or removed after inspection.

The decimal gears **32, 33, 34** for the value wheels are of the remontoire type, so that a sudden jump is made at the completion of each decimal part of the registration, and the pins are always presented square to the webs and pads **86**. The driving wheel **40**, Fig. 14, which moves continuously with the consumption of gas, &c., is connected to the 10-cent wheel **32** by an internal coiled spring that accumulates the motion until internal detents pass a section of a 10-toothed cam on the fixed internal shaft **31**, when the wheel **32** slips suddenly one-tenth of a revolution ; at the tenth step of **32**, other internal pawls come into gear with **32** which make a move to record one dollar, and so on up to 99 dollars.

The plate **29** may carry fixed perforating pins **90**, which pass through registering holes in the base plate **16**, and make standard inscriptions (such as "Gas Company of —— City"), or the pins **90** may be omitted and such descriptive matter may be previously printed in repetition on the webs.

19 *typed pages,* 15 *claims ;* 6 *fols. drgs.*; 35 *figs.*

FIG. 8 FIG. 7

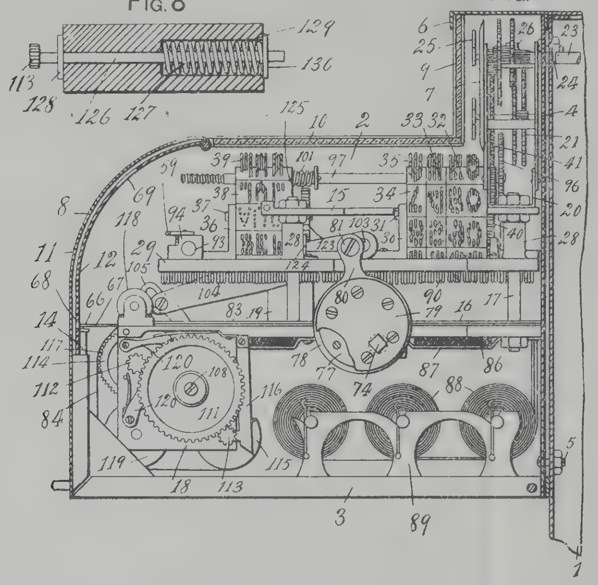
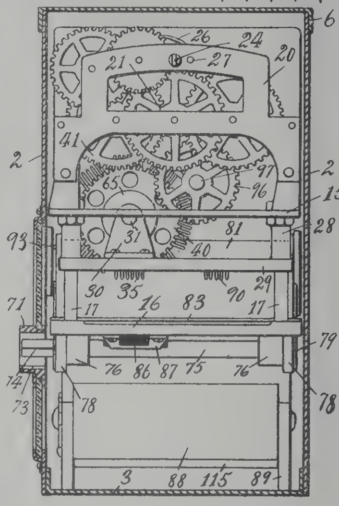


FIG. 14

3376/05



3377. 13 June. F. W. DUNBAR, 5210 Jefferson-avenue, Chicago, Cook, Ill., U.S.A., telephone engineer.

Telephone exchanges ; details.
Classes 05.7 ; 05.8 ; 56.2.

In these systems each subscriber is provided with multiplied calling jacks but no answering jack or individual call indicator. The telephone lines are divided into groups, each having a number of associated cord circuits, so that a calling subscriber actuates a lamp call in the first disengaged cord circuit, and in some of the systems described also automatically connects himself to the answering end of the cord circuit. Each exchange operator may be allotted as many cord circuits as she can manage, the cord circuits being so arranged that each operator does not receive a call until all the cord circuits of the operators above her are in use.

Each call is registered by the meter when the called subscriber removes his receiver.

In the system, as shown diagrammatically in Fig. 1, each subscriber has an automatic switching-device in which a magnet **10** moves the elements **5**, **6**, **13** over the contact buttons **7**, **8**, **16** until an idle cord circuit is reached. There are as many horizontal rows of buttons **7**, **8**, **16** as there are telephone lines belonging to a group of cord circuits, the buttons of each row being multiplied as shown. The number of the multiplied sets of sleeve contact-buttons **8** and of tip contact-buttons **7** is the same as the number of cord circuits associated with the group of telephone lines.

When subscriber **A** removes his receiver he earths his line relay **17** through the common battery **11**, thereby attracting a switch **12** and energizing a relay **9**, the circuit of which is from the grounded battery **11**, relay winding **9**, switch **12**, element **13**, and a brush **15**, normally resting on the grounded button **14**. The relay **9** earths its armature and completes the circuit of the selecting magnet **10** as follows :—From the battery **11**, magnet **10**, forked arm **18**, switch **12**, and the armature of the relay **9** to the ground. The armature of the magnet **10** moves the elements **5**, **6**, **13** over the contact-buttons and at the same time breaks the magnet circuit at the forked arm **18**. The step-by-step movement is thus continued until the brush **15** encounters a button **16** of an idle cord circuit, and from which consequently the ground has been removed as will be seen later. This breaks the circuit of the relay **9** and consequently of the selecting-magnet **10**. The bar is locked in position by a detent **22**. An idle cord circuit having thus been selected, the cut-out relay **2** and the relay **29** are energized by current passing from battery **11**, wire **200**, relay **29**, sleeve strand, contact **8**, brush **5'**, element **5**, switch 8^1, and the relay **2** to the ground. When the relay **2** attracts its armatures, a part of the current also flows from the switch 8^1 over the calling subscriber's line, switch **7'**, element **6**, brush **6'**, contact **7**, tip strand to call lamp relay **30**, and to earth. The call lamp is thus connected with the battery **11** through the armatures **26**, **27**, **28** and the relay **42** controlling the pilot lamp **43**. The exchange operator then connects the calling and called subscriber in the usual way.

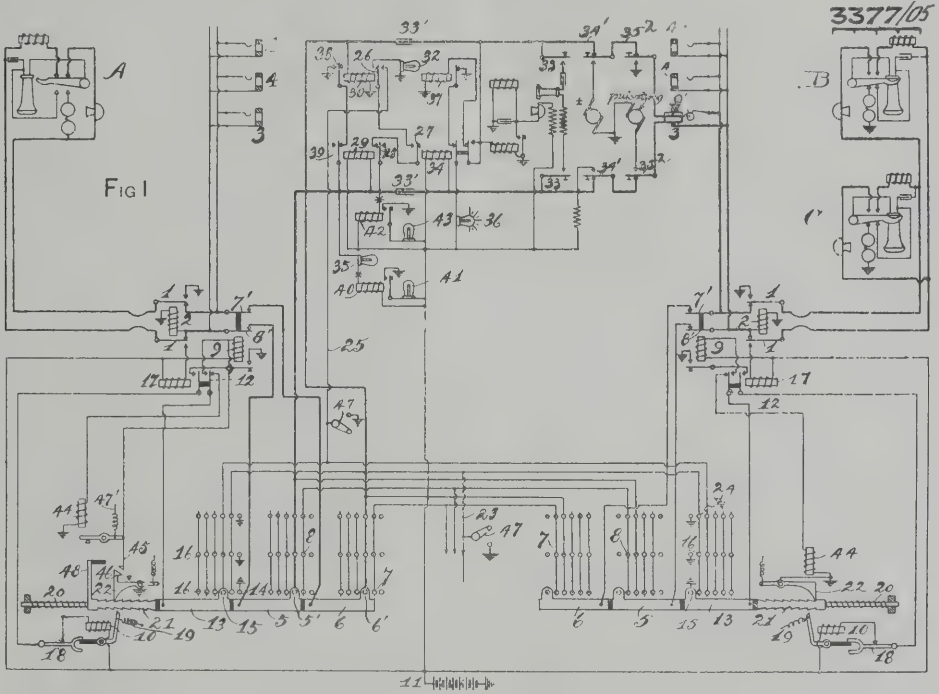


FIG I

When the conversation is over, the called subscriber **B** hangs up his receiver, thereby breaking the circuit of the relay **37**, which releases its armature so that the called subscriber's supervisory lamp **36** is earthed through the armatures of the relays **34**, **37**.

When the calling subscriber hangs up his receiver, the circuit of the relay **30** is broken and his supervisory lamp **35** earthed through the relay **40** and the armatures **39**, **38**. The operator then withdraws the connecting-plug **9'**, thereby completing the circuit of the releasing-magnet **44** through the released switch **12**, element **13**, button **16**, wire **25**, and the armatures **26**, **27**, **28** to the battery **11**. The attraction of the armature of the magnet

44 causes the hooks **45**, **46** to engage and complete a circuit from the grounded detent **22**, hook **45**, relay **9**, and the battery **11**.

The relay **9** attracts the switches **7'**, **8'**, thus disconnecting the cut-off relay **2** and breaking the circuit of the relay **29**, thereby putting out the lamp **35**. The circuit of the releasing-magnet **44** is also broken at the armatures **28**, permitting the spring **47'** to raise the detent **22** so that the rack **21** and elements **13**, **5**, **6**, are restored to their initial position by the spring **20**.

It will be noticed that when the cord circuit is engaged "ground" is removed from the wire **25** and the button **16** by the attraction of the armature **26**.

In order to adjust the work of each operator to her maximum capacity, the cord circuits may be made unresponsive to a calling line by earthing them by means of switches **47**.

A diagram is given of the arrangements whereby the calls are received by the exchange operators in the order in which they are free to take work; three sections of the switch-board are shown, providing for 1500 lines, each section having three positions, and each position having ten cord-circuit terminals; three groups of subscribers lines are shown, indicating by circles two rows of five hundred rows of contacts, thirty groups of contacts being in each row; the various combinations are described, including a distributing-board to increase the capacity of any board section or to replace broken down cord circuits.

In Fig. 1, the terminals of the calling lines are caused to travel to effect automatic connexion with the answering ends of the cord circuits.

In a second modification the calling lines have fixed terminals over which sweep the answering ends of cord circuits having manually-disposed connecting-plugs.

In a third modification a free operator is first selected, and thereafter a free cord circuit of such operator.

In a fourth modification the terminals of the calling line travel over fixed answering ends of the cord circuits, meter circuits are so arranged that the call is registered when the subscriber removes his receiver. Each operator is also provided with mechanism for registering the number of calls on which line they have made connexions.

18 *printed pages*, 11 *claims*; 5 *fols. drgs.*, 5 *figs.*

3378. 13 June. *C.a.P.* 5 Dec.
C. J. JOHNSON, Point Chevalier, Auckland, N.Z., engineer, and J. CARLAW, Auckland, N.Z., water-works engineer.

Smoke consuming firebridge.
Class 17.7.

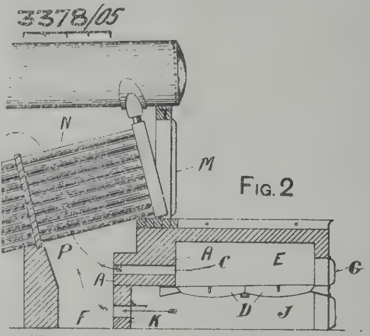


FIG. 2

The invention in 2992/05 is applied to water tube boilers.

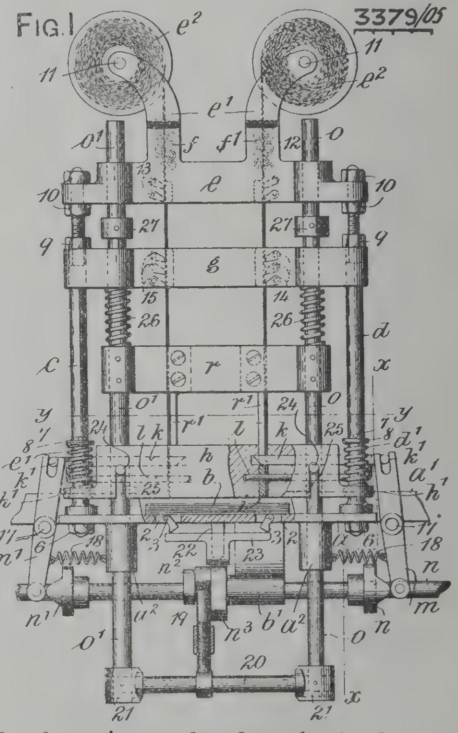
The furnace **E** is built out in front of the boiler **N**, as illustrated in Fig. 2; the specification 2292 is to be read herewith.

Prov. 3 *typed pages.*
Comp. 5 *typed pages*, 1 *clm.*; 2 *fols. drgs.*, 3 *figs.*

3379. 13 June. C. A. JUENGST, Croton Falls, Westchester, New York, U.S.A., manufacturer.

Book binding; wire stitching.
Classes 48.7; 58.4.

FIG. 1



The sheets **b** are placed on the fixed table **a**, below which a cam shaft is carried in hangers **b1**, and operates the vertical slide bars **o**, **o1** and lateral lever **m**, **m1**; lateral fixed pillars **c**, **d** support the top frame **e** and guide the presser block **h** and feed bar **g**.

The wire from reels **e2**. passes straighteners **f**, **f1** and non-return dogs **13**, and is fed downward by dogs **14**, **15** on the spring-supported bar **g**, whose upward range is adjusted by nuts **9** to determine the length of the staple; the wire passes through the cross-head **r** alongside the plungers **r1**, which passes through holes in the presser block **h**.

Articulated in the block **h**, are die-blocks **i** in the form of claw-shaped cams which are loaded and hinged so that the curved and tapered ends fall transversely across the holes under the plungers, and also alongside the wire; lock bolts **l** hold these cams, while cutters **k** shear the wire below the plunger **r1** and bend the upper end horizontally above the die-block.

After the lateral withdrawal of **l**, **k**, the block **h** descends on the paper **b**, and the further descent of the plungers **r1** force the wire through the paper, and the lower protruding ends are bent up and clenched by the latches **3** and T-bar **23**; the die-block gives way laterally as the plungers descend.

25 *typed pages*, 10 *claims*; 2 *fols. drgs.*, 5 *figs.*

3380. 13 June. *C.a.P.* 21 Feb., 1906. *Lapsed.*

F. Walsh, 23 Elizabeth-street, Sydney, N.S.W., patent attorney (*communicatee of* C. A. Sahlstrom, *act. inv.*, 75 O'Connor-street, Ontario, Canada, engineer).

"An electrical ozonizer."

Classes 02.6; 07.9.

3381. 13 June. E. Phillips, 533 Collins-street, Melbourne, patent attorney (*communicatee of* T. B. Wilcox, *act. inv.*, 97 Quitmann-street, Newark, New Jersey, U.S.A., mechanical expert, and G. W. Morgan, *jun.*, *assignee*, 70 Thomas-street, New York, U.S.A., merchant.

Briquette press; chain moulds, &c.
Class 20.2.

Each link **20** of the chain-bed has two cylindrical mould holes **23**, which are filled with the coal dust and binder as they pass under the hopper **24**, in which are the feed screws **25**. The links are dragged over the steam heated plate **55** by four lateral pegs **36** (on the sides of the drums) which engage the arrow-head plates **21** on the sides of the chain-bed; inside each drum are four radial plungers **44**, Fig. 4, which are moved outward to enter the mould holes by an internal adjustable cam on the fixed central shaft. As the moulds **23** come between the drums **34** and **35**, Fig. 1, the opposing plungers enter the mould from opposite sides and compress the briquette into a lenticular cake; as the rollers **46** leave the cam, the plungers are retracted by the springs **45**.

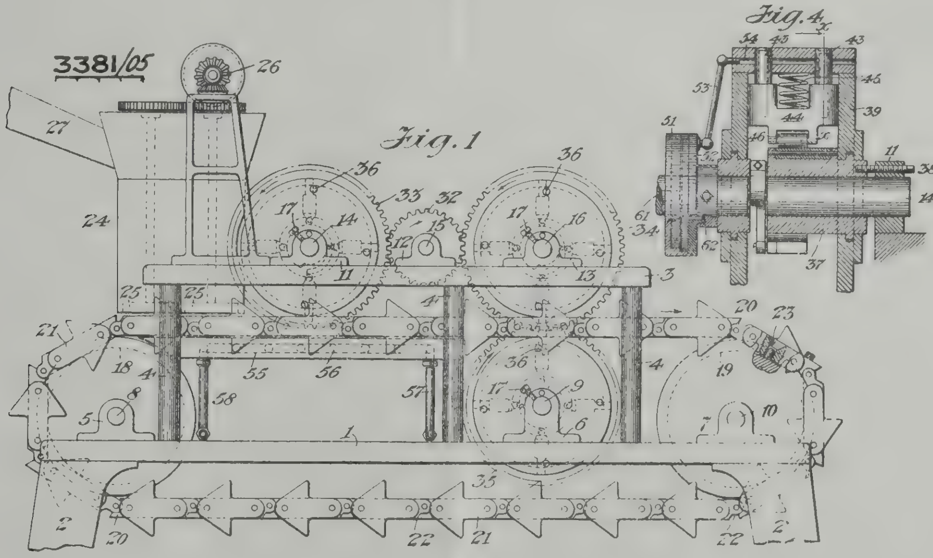
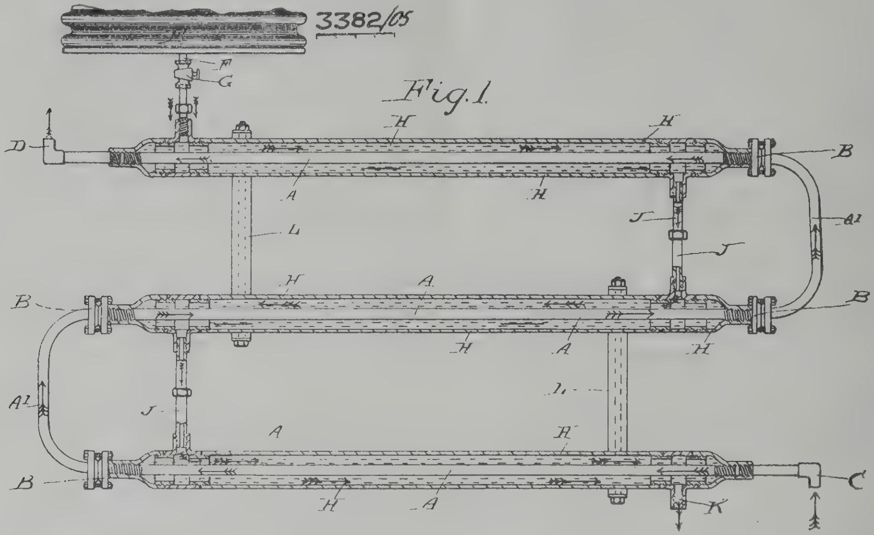


Fig. 4 also shows a steam connexion **53** connected by a sliding ring **52** to an inlet **61**, by which the perforated plungers are heated.

On passing the end roller **19**, the briquettes are pushed out of the moulds by pegs on the roller.

9 *typed pages*, 8 *claims*; 3 *fols. drgs.*, 12 *figs.*

3382. 13 June. *C.a.P.* 10 Mar., 1906.
E. H. Boddy, Emily-street, Seymour, Vic., butter factory proprietor.



Watet-cooler; jacketed pipes.
Classes 29.5; 29.7.

The ammonia pipes **A** may be arranged parallel to one another and connected by U-tubes **A**^{1}; the lengths are surrounded by water jackets **H** connected by T's and cross pipes **J**. The ammonia enters the inner tubes at **C** and circulates in opposite direction to the water in the outer jackets, which issues cooled at **K**.

Prov. 6 *typed pages.*
Comp. 5 *typed pp.*, 2 *claims;* 1 *fol. drg.*, 1 *fig.*

3383. 13 June. A. H. Schmedtje, 2337 South Thirteenth-street, St. Louis, Miss., U.S.A., gentleman.

Glass stoppers.
Class 57.5.

The bottle has a ground conical neck with the small end outward; the glass stopper has two ground cones either of which fits the neck, so that either may fall into the neck when the bottle is inverted after being filled.

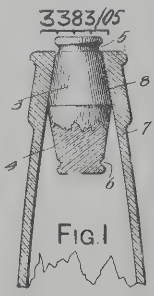


Fig.1

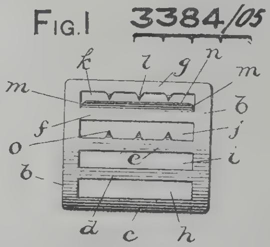
The stopper is inserted during the manufacture of the bottle and cannot be removed without breaking it; grooves **6** on both ends of the stopper facilitate its handling from the outside.

4 *typed pages*, 2 *claims;* 1 *fol. drgs.*, 2 *figs.*

3384. 13 June. M. Barabasz, 1634 Eastern-avenue, Baltimore, Maryland, U.S.A., clergyman.

Tongueless garment buckle.
Class 43.9.

Fig.1



The buckle has several bars, some plain **c**, **d**, and others **e**, **g**, with oppositely projecting teeth; the buckle does not require stitching to the strap ends, and may be used for suspenders or to connect two opposed ends, such as trousers straps.

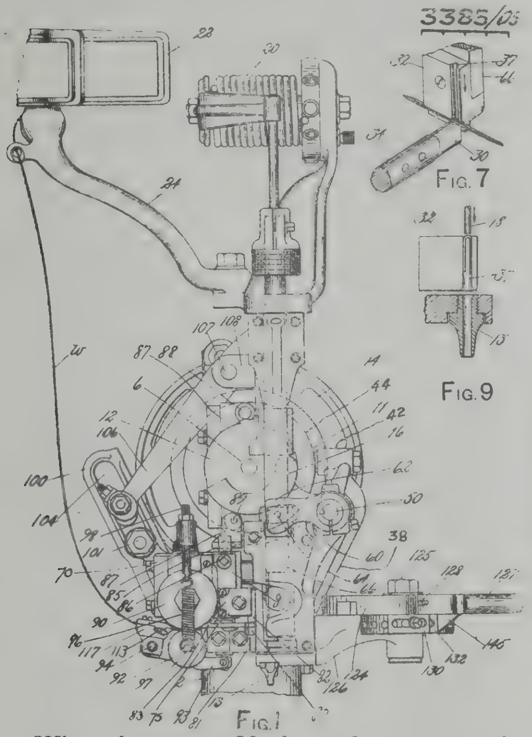
5 *typed pages*, 2 *claims;* 1 *fol. drg.*, 4 *figs.*

3385. 13 June. *C.a.P.* 3 Apr., 1906.
United Shoe Machinery Company, 205 Lincoln-street, Boston, Mass., U.S.A., shoe machinery manufacturers (*assignees of* W. H. Borden, *act. inv.*, Winchester, Middlesex, Mass., U.S.A., machinist).

Boot stapling machine.
Classes 44.5; 58.5.

The machine forms staples of adjustable length, and inserts them in boots, &c. A wire

W is fed from a coil by an oscillating roller **90** having a corrugated groove; an idle wheel **92** mounted on a lever **93** pivoted at **94** to the carrier **70** is pressed against the wire by a spring **96**, pressing it into the groove on roller **90** during its forward oscillation to feed it to the cutters **80** and **82**. The lower cutter **80** is also fixed to the adjustable carrier **70**, whilst the vertically moving cutter **82** is fixed to a bar **84** sliding in guides on the carrier **70**, and, to allow the carrier to move horizontally, is driven by a piece **85** which slides along a flange **86** of a cam-operated block **87**.



When the cutter **82** descends to sever the wire, the bar **84** depresses a plunger **75**, which in turn depresses the end of the lever **93**, lowering the roller **92** and releasing the wire, backward movement being prevented by an inclined slot and jamming roller **113**.

The feed roller **90** is reciprocated by a pinion gearing with a segment rack on the lever **100**, which is pivoted at **101** on the carrier **70** and is rocked by the cam-operated lever **06**.

To reduce the length of the staple for thinner work, the carrier **70** is moved horizontally towards the centre line, above the feed throat **13**, by spiral cam plate **124** having a handle **127**. As the carrier is moved towards the forming dies the slot **104** in the lever **100** is brought more nearly at right angles with the arm **106**, thereby reducing the swing of the arm **100** and, consequently, the oscillation of the feed roller and the length of wire cut at each downward movement of the cutter **82**, at the same time the carrier, being proportionately nearer to the dies, centres the shorter length of wire on the mandrel **30**.

As the wire is centred over the mandrel **30**, Fig. 7, the forming die **32** is depressed by a slide bar **66** reciprocated by a swing arm **60** attached to a shaft **50** rocked by an arm and cam on shaft **6**. The descending die **32** bends the cut wire over the mandrel **30**, forming a staple, the mandrel is then withdrawn to allow a driver **18**, Fig. 9, to drive the staple down through the feed throat **13** into the work, the points being clinched and recurved in the lower leather.

The mandrel is withdrawn by an arm **38** sliding on the rock shaft **50** under control of the face cam **44**.

An alternative automatic arrangement is shown in which the thickness of the stock, by depressing the work support more or less, operates the carrier **70** to regulate the length of staple.

The apparatus may be used in machines having work-supports and feed gear such as are described in G.B. 1492/*93* and 1493/*93*.

Prov. 10 *typed pages.*
Comp. 22 *typed pages,* 20 *claims* ; 5 *fols. drgs.,* 13 *figs.*

3386. 13 June. *Comp. lapsed.*

J. Ellis, Victoria-street, Warragul, Vic., storekeeper's assistant.

Application under Sec. 7,

Vic.	...	19,581 ...	6th Aug., 1902
Tas.	...	3622 . .	22nd Dec., 1902

"Improved attachments for securing horse and other animal rugs."

Class 39.5.

3387. 13 June. The Ingersoll-Sergeant Company, 26 Cortlandt-street, New York, U.S.A., manufacturers (*assignees of* W. Prellwitz, *act. inv.*, Easton, Northampton, Penn, U.S.A., engineer).

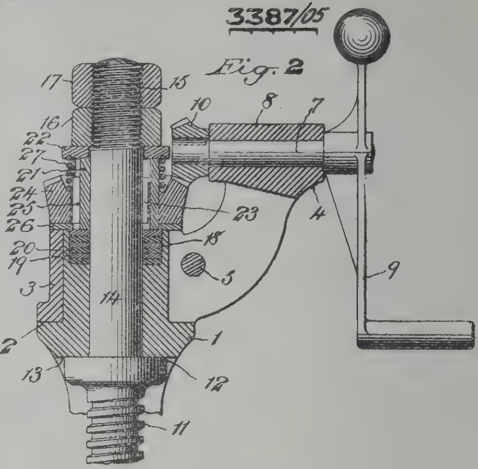
Feed adjustments for coal channelling machines.

Classes 60.7; 85.8.

To maintain the pitch distance of the bevel gears **10** and **24** in spite of the excessive wear of the shoulders **12**, **13** under the hammering action, a sleeve **21** is interposed between the bevel **24** and the spindle **14** of the feed screw **11**, both inside and outside surfaces of the sleeve having sliding keys **23**, **25**; the end wear of the screw is taken up by the lock nuts **16**, **17** forcing the sleeve **21** down to meet the pile of hard and soft washers **19**, **20**; the bevel **24** is elastically held between the easily renewable washer **26** and the spiral spring **27**, and does not feel the blows.

The angular position of the bevel **10** and shaft **7** may be adjusted by slackening the bolt **5** and moving the split bracket **3**, **4** around the shell **1** to the most convenient setting.

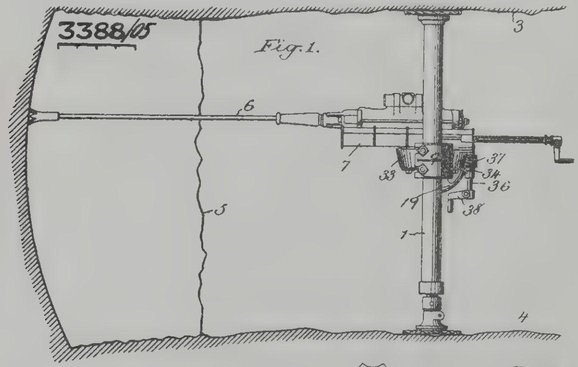
7 *typed pages*, 2 *claims*; 2 *fols. drgs.*, 3 *figs.*

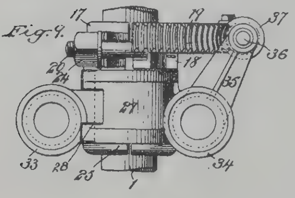


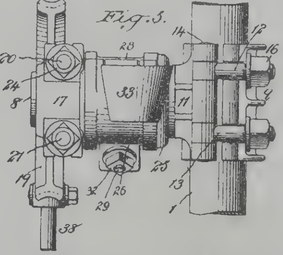
3388. 13 June. The Ingersoll-Sergeant Company, 26 Cortlandt-street, New York, U.S.A., manufacturers (*assignees of* W. Prellwitz, *act. inv.*, Easton, Northampton, Penn., U.S.A., engineer).

Radial gear for coal channelling.
Class 85.7.

A rock drill for coal channelling or holding is supported to swing vertically as in Fig. 1 (or horizontally when desired) by adjustable sleeve clamps and worm gear.







The shell **7** of the drill may be attached to the support by a cone and socket joint **33**, Fig. 1, but in the details, Figs. 5 and 9, the drill is omitted.

In Fig. 9 the horizontal holing position is shown in which the drill swings around the vertical jack pillar; a split sleeve **17**, **18** is clamped rigidly to the pillar by bolts **24**, and carries the semicircular feed-rack **19**; outside the sleeve **17**, **18**, a second split sleeve **27** is clamped as a working fit between end collars **25** on the first sleeve, forming a two-part trunnion; sleeve **27** carries two cone-sockets **33**, **34** in alternative positions, and also a bracket **35**, carrying the worm **37** and shaft **36** by which a drill **7** clamped in either cone **33**, **34** may be swung for holing.

In Fig. 5 (for vertical channelling as in Fig. 1) the pair of sleeves are removed from the jack-pillar **1** and are clamped on a short horizontal arm **8** of the same diameter as the jack pillar; the arm **8** is itself attached to a third split sleeve **14**, **9** that is rigidly clamped on the jack pillar; the split sleeves in all cases are formed with the halves hinged at one side, and connected by a pair of hinged bolts at the other side, as by **12**, **13** in Fig. 5.

The swinging feed is performed by a winch handle on the end of the worm shaft **36**.

10 *typed pages*, 2 *claims*; 5 *fols. drgs.*, 14 *figs.*

3389. 14 June. *Prov. only.*

A. G. Ochiltree, Burroway, Narromine, N.S.W., grazier.

"The Ochiltree rabbit exterminator."

Class 38.9.

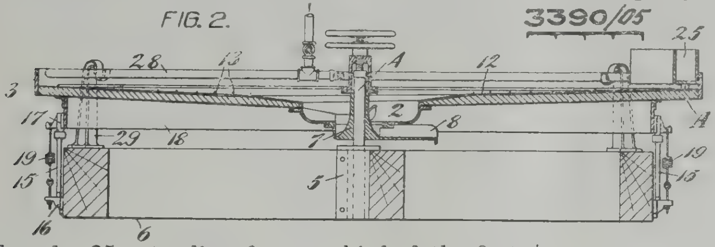
3390. 14 June. J. W. Pinder, 1001 Pine-street, San Francisco, Cal., U.S.A., mining engineer.

Spiral conical vanner.

Class 11.4.

The nearly circular table has a spiral outline, the pulp being fed and distributed from a launder **25** extending for one-third of the first spiral; wash water is supplied by a spray pipe **28** around the other two-thirds, and the products are separated as the pulp travels down the cone to the centre over spiral riffles **13**; the concentrates are trapped by a radial slot (with an adjustable dividing switch point) near the inner edge in two grades, whilst the tailings pass over a segmental fine sieve occupying about one-third of the central basin **2**, and discharge by the gutter **8**.

FIG. 2.



The table is framed on a peripheral ring **18**, supported by rocking struts **15** which have radial knife edges at the top to allow circular shaking, by any suitable toggle-shaker acting through a tangential link against a tangential buffer spring; the table is held down on the struts **15** by spring links **19**; the conical surface is formed of tapered boards resting at the centre on the vertically adjustable well **2**, which slides on the pillar **4** so that the slope may be adjusted; the inner edge is steeper, as shown, and the cone has a linoleum surface.

11 *typed pages*, 8 *claims*; 2 *fols. drgs.*, 15 *figs.*

3391. 14 June. The Morgan Crucible Co. Ld., Battersea Works, London, Eng., manufacturers (*assignees of* C. W. Speirs *act. inv.*, Battersea Works, London, Eng engineer.

Compressed stratified plumbago.

Classes 02.2; 03.2; 60.9.

Natural crystalline plumbago is ground to pass through a 100-mesh sieve, placed in moulds, and subjected to a pressure of not less than 20 tons to the square inch, and is thus converted into blocks of any desired shape.

The plumbago flakes under the pressure become arranged in planes at right angles to the direction of pressure, the resulting blocks having greater conductivity along the flakes.

3 *typed pages*, 1 *claim.* *No drawing.*

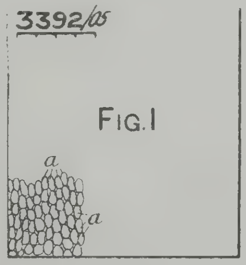
3392. 14 June. The Morgan Crucible Co. Ld., Battersea Works, London, Eng., manufacturers (*assignees of* C. W. Speirs, *act. inv.*, Battersea Works, London, Eng., engineer.

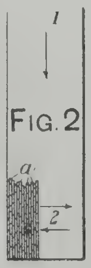
Compressed plumbago commutator brushes.

Classes 02.2; 03.2.

Natural plumbago is ground to pass through a sieve having 100 meshes to linear inch; a solution of 1 lb. of gelatine in 100 lbs. of water is mixed with the ground plumbago in the proportion of 1½ parts by weight of solution to 1 part of plumbago; the mass is then dried and again ground and then placed in moulds and subjected to pressure about 20 tons per square inch.

3392/05





In Fig. 2, the arrows **2** show the direction of pressure, and the arrow **1** the direction of the flakes and of the greatest conductivity.

Commutator brushes of this material have nearly equal conductivity and greater hardness than when made of compressed graphite without the binder.

5 *typed pages*, 2 *claims*; 1 *fol. drg.*, 3 *figs.*

3393. 14 June. *C.a.P.* 8 Mar., 1906.
J. GRUMMETT, 19 Clive-road, Hawthorn, Vic., mechanic.

Motor car seats and fittings.

Classes 93.2 ; 95.3.

The rear seat **A** is adapted to slide forward on rails 1 and partially telescope outside the front seats, forming a single-seated car, the back space being then covered by a sliding panel 8.

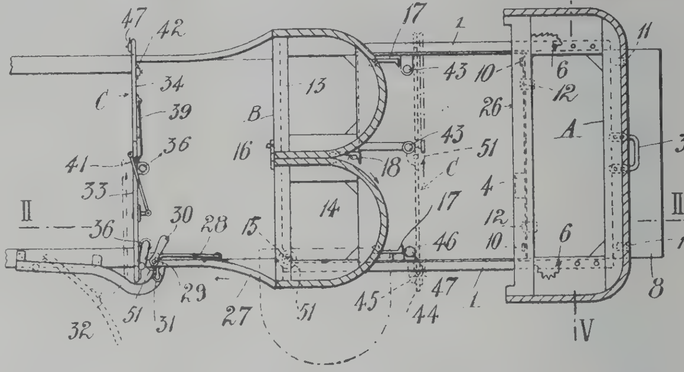
The driver's seat 13 is fixed, while the adjoining front seat 14 is pivoted at 15 and swings into the position shown in dotted lines to allow access to the rear seat through the front door 27.

A glass screen **C** has two panels 33 and 34, the near-side one 33 is fixed, and the off-side one 34 may swing on a pillar into the position indicated by dotted lines in front of 33. The screen may also be placed behind the front seat as in dotted lines.

The door 27, the seat 14, and the frame 34 are operated by the driver by levers, or by sprocket wheels and chains.

FIG. I

3393/05



Prov. 3 *typed pages.*
Comp. 10 *typed pages,* 10 *cls.;* 2 *fol. drg.,* 7 *figs.*

3394. 14 June. *Prov. only.*
E. N. WATERS, 414–418 Collins-street, Melbourne, Vic., patent attorney (*communicatee of* A. KNOX, *act. inv.*, Waverley Hotel, Southampton-row, London W.C., Eng.).

"Method of treating surfaces to be protected from fouling or to be rendered antiseptic."

Classes 79.3 ; 87.1.

3395. 14 June. *C.a.P.* 12 Mar., 1906.
G. W. BEAL, Hall-street, Spottiswoode, Vic., manufacturer.

Sand soap.

Classes 25.1 ; 75.1.

The following ingredients are finely ground and well mixed in or about the proportions stated :—

Ground marble ...	20	per cent.
Ground pumice stone	20	,,
Glass dust	20	,,
Ground sand ..	20	,,
Ground soap ...	15	,,
Ground soda ash ...	2.5	,,
Ground soda crystal ...	2.5	,,

Prov. MS. pages.
Comp. 4 *MS. pages,* 1 *claim.* *No drawing.*

3396. 14 June. *Prov. only.*
A. HOOPER, Moolap, near Geelong, Vic., coach painter.

"An improved shaft coupling for vehicles."

Class 93.7.

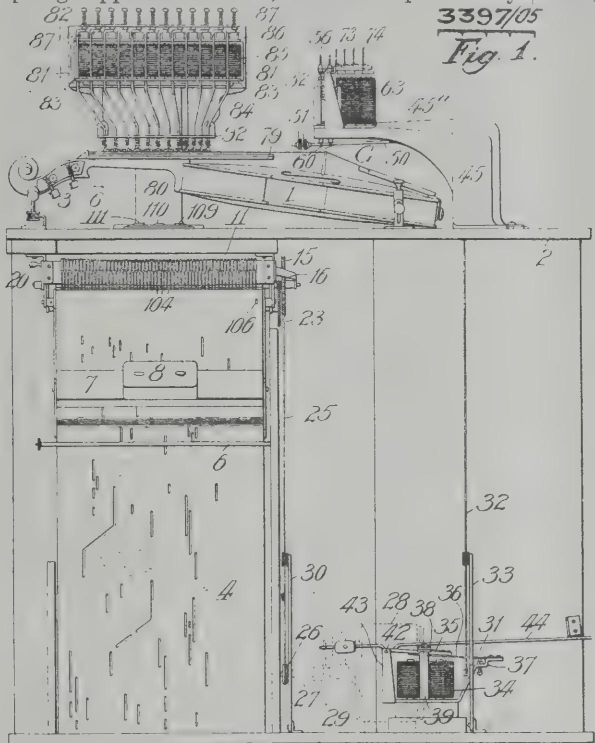
3397. 14 June. F. H. SNOW, National Mutual Blds., King William-street, Adelaide, S.A., patent attorney (*agent of* H. S. MILLS, 11 to 23 South Jefferson-street, Chicago, Cook, Ill., U.S.A., manufacturer, *assignee of* H. K. SANDELL, *act. inv.*, Chicago, Cook, Ill., U.S.A., electrician).

Tune sheet viol-player, or hurdy-gurdy.

Classes 01.3 ; 01.6 ; 60.2.

A four-stringed instrument 1 of the viol type, having metallic strings 60 and worm-gear tuning pegs 3, is clamped on a stand 2 ; the tune-sheet 4, with guiding bars 7, 8 passes over a roller driven by a cord 25 from a motor 28 ; a row of 58 contact fingers 104 connect electric circuits through the perforations in the tune sheets, to operate the vibrating wheels 51, stopping devices 81 to 92, and other purposes.

The strings are maintained in vibration by four rotating wheels 51, formed of conical celluloid washers between clamping collars ; the wheel spindles **50** are driven by cords **32**, on pulleys inside the bracket **45**, the operating ends being carried in bearings **60** on the ends of spring-supported rods **56**, that are depressed by four electro-magnets **52**, under control of four of the contacts **104**; the pressure of the wheels on the strings is determined for four grades of tone by four other magnets **63**, having varying leverage, controlled by four other contacts **104**.



3397/05 *Fig. 1.*

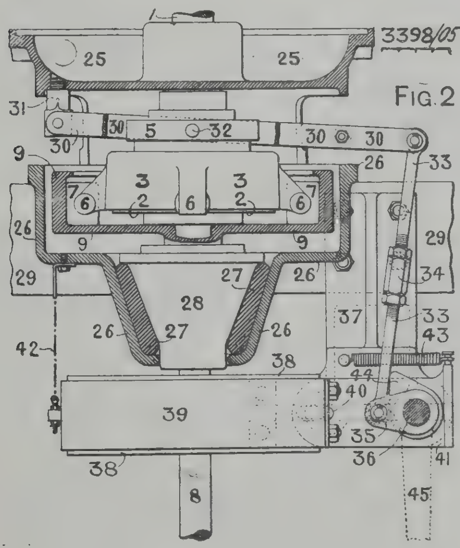
Over each string is a row of 12 stopping rods, guided in a bar **92** for equal tempered semitones; these are depressed by magnets **85** under control of 48 of the contacts **104**; each pair of stops are coupled over the string by a lever having a central projection that stops the string at quarter-tone length when any two rods at a semi-tone apart are simultaneously operated, thus rapid chromatic scales may have a *portamento* effect, and by vibrating one stop while the semitone below is held down, a tremolo, or quarter-tone shake, is produced.

One of the contacts **104** produces the tremolo effect by an opposed intermittent band on the paper roller, and another contact opposite aperture **106** in the tune sheet trips the magnetic cut-out **34** at the end of a sheet; when using the open strings the contacts cut-in four resistances to replace the coils of magnets **85** not used; to tune the instrument, the tune-sheet is uncoupled by the handle **20**, and the fifths are stopped by push buttons **109** to **111**.

To vary the tempo, the pulley on the motor is made with four spring segments that are expanded by a cone under the control of an electro-magnet and a finger **104**.

A similar machine pneumatically operated is suggested.

21 *printed pp.*, 10 *claims*; 10 *fols. drgs.*, 21 *figs*



3398/05

FIG. 2

3398. 14 June. J. LAIDLAW and J. W. MACFARLANE (Watson, Laidlaw, & Co.), 98 Dundas-street, Glasgow, Scot., engineers.

Duplex friction clutches for centrifugals.
Classes 60.4; 62.4; 62.8.

To avoid the necessity of stopping the motors of electrically driven sugar centrifugals at each charging and clearing operation, the basket spindle **8**, Fig. 2, is driven by a duplex-friction clutch **3**, in one section of which the internal friction cones **2** and **3** are directly separated by the bridle-ring **32** and lever system **30** to **45**, the other section **6**, **7**, **9**, being a Siemens' centrifugal clutch which does not transmit power until the outer cone of **3** has acquired sufficient speed to throw out the riding weights **7** (which slide radially between lugs **6** on the drum **3**) into frictional grip with the drum **9**, which is directly coupled by radial lugs to the head of the spindle **8**.

The co-acting sleeves of the central parts are provided with oil-collecting guards and passages which pass the lubricant from the motor spindle **1** through the clutch parts needing lubrication, but avoiding the frictional surfaces, to the hanging bearing **28**, which is of usual type with the conical buffer **27**.

The basket brake **39** is operated by the lever **45**, and is so coupled that the mid-position of handle **45** is neutral, and motion to either side operates the clutch or the brake separately.

10 *printed pages,* 9 *claims;* 2 *fols. drgs.,* 2 *figs.*

3399. 14 June. J. S. MacArthur, 74 York-street, Glasgow, Scot., metallurgical chemist.

Leaching antimonial ores.
Classes 08.5 ; 14.1.

The ore is digested with a solution containing not more than 4 per cent of caustic soda, or equivalent strength of other fixed alkali, in vats heated nearly to boiling by steam coils. The dissolved antimony is precipitated by Co_2 gas from smoke or lime kilns, and separated by filtering. The sodium carbonate is then reconverted into caustic by lime for further use.

5 *printed pages,* 1 *claim. No drawing.*

3400. 14 June. H. M. Sutton and W. L. and E. G. Steele, Dallas, Texas, U.S.A., electricians.

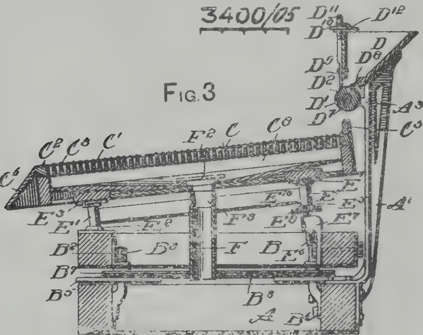


Fig. 3

Dry pneumatic vanners.
Classes 11.4; 12.7.

The vanning surface or table is formed of a grid of tapered slats **C1** (in section Fig. 3) covered by a cloth **C2**, held down by riffle strips fixed above each slat; several patterns of riffle arrangement are illustrated; the lateral slope of the table is adjusted by the screws **E6**, Fig. 3, and its longitudinal slope by screws **B3**, Fig. 1; both adjustments are made by a pair of screws coupled by pitch chains around sprocket wheels **E8, B7** on the screws.

The table is supported from the sub-frame **B** by rocking posts, and is shaken by the adjustable percussion device **C1** to **C11**, in Fig. 1, giving a slow return, or by harmonic motion as in Fig. 18.

A uniform blast may be introduced, as in Fig. 1, by a blower connected by a pipe and flexible neck **F3** to a dished boxing under the table; or in an alternative illustration pulsating blast may be obtained by a flexible bottom with air valves, which is pulsated vertically as a bellows by an eccentric and adjustable bent lever similar to **C6** in Fig. 18; an upper partition in the air box with a second row of non-return valves completes the bellows.

Fig. 18

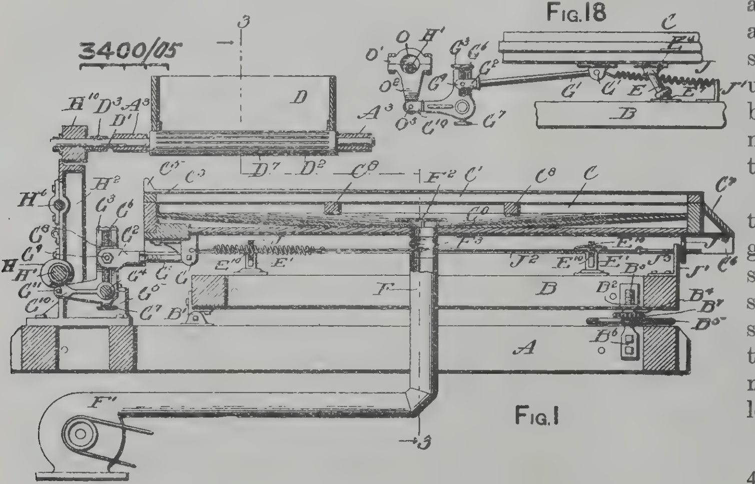


Fig. 1

The ore pulp is fed from the hopper **D**, Fig. 1, by the grooved roller **D7** on the high side of the table and the separation is generally on the same lines as with wet tables; the advantages of dry vanning are explained at some length.

19 *typed pages,* 20 *claims;* 4 *fols. drgs.,* 18 *figs.*

3401. 14 June. H. M. Sutton and W. L. and E. G. Steele, Dallas, Texas, U.S.A., electricians.

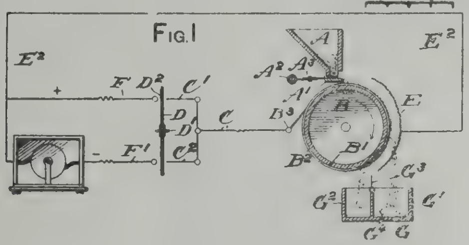
Electro-static ore separator.

Classes 02.6; 11.7.

The components of complex ores are separated by variations of "dielectric hysteretic impedance" by a lag of charge in the dielectrics under the influence of alternating potential.

In Fig. 1 the crushed ore from the hopper **A** is sprinkled by the shaking pan **A1** over the roller **B**, and is carried between the metallic surface **B2** of the roller and an opposing screen **E**, which is charged from one side of a static-generator; the roller is charged from the generator through a mechanical commutator **D**, in which a rotating ebonite disc transfers an aperture **D2** alternately into the course of conductors **F** and **F1** connected to opposite sides of the generator; at a certain periodicity some particles are repelled and fall in the receptacle **G1**, and others are attracted to the cylinder **B** and fall into **G2**.

3401/05



In one modification, the cylinder and curved screen are replaced by two vertical screens; in others an elongated sectorial slot replaces the perforation in **D**, condensers or Leyden jars are interposed, and the connexions varied to change the character of the charges and alternations to suit special operations.

12 *typed pp.*, 20 *clms.*; 1 *fol. drg.*, 5 *figs.*

3402. 14 June. *Prov. only.*

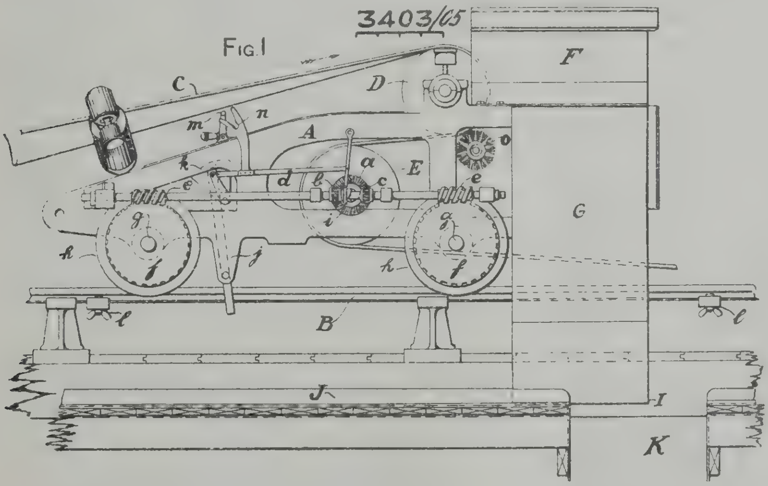
T. S. Bull, 94 Pitt-street, Sydney, N.S.W., accountant.

"New balance slide valve."

Class 64.5.

3403. 15 June. W. J. Spruson, 169 King-street, Sydney, N.S.W., patent attorney (*communicatee of* T. Robins (*jun.*), *act. inv.* (Robins Conveying Belt Co.) and C. K. Baldwin, *act. inv.*, engineer, 21 Park-row, New York, U.S.A.)

3403/05



Belt conveyors; tripping and storage.

Class 59.6.

Discharging-devices or trippers for band conveyors give an intermittent discharge, autotic delivery at predetermined points, without interrupting the continuous operation of the conveyor.

The endless band **C** passes around pulleys **D**, **E** on a carriage **A** running on rails **B** and carrying a hopper **F** leading into shoots **G**, on each side of the conveyor belt, delivering into openings **K** in troughs **J**; these troughs close the ends of the shoots during the travel of the carriage, and, by storing the delivered material in the shoots, obviate the stoppage of the carrier band.

The carriage is driven in either direction by bevel-wheels **b**, **c** and worm gearing from the pulley **E**; the lever **j** engages adjustable stops **l** fixed on the rails **B** and throws clutch **i** to reverse the motion between the stops; when the stop **m** engages the fork **n**, the clutch member is held in an inoperative position.

In a modification, the storage is effected by closing the lower ends of the shoots by means of hinged doors operated by cam-rails.

10 *typed pp.*, 8 *claims*; 3 *fols. drgs.*, 6 *figs.*

3404. 15 June. The Manufacturers Agency Ld, 235 Flinders-lane, Melbourne, Vic. (*assignees of* J. H. S. Jaggs, *act. inv.*, Logan-street, Canterbury, Vic.)

Mirrors on glove fasteners.

Classes 43.6; 43.9.

Usual dome and stud fasteners have a circular piece of looking-glass **A**, or a metal reflector, attached outside the dome part by a metal band **B**; the co-acting stud **F** is unaltered.

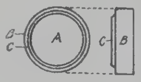
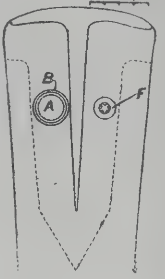


Fig.I 3404/05



3 *typed pages*, 1 *claim*; 1 *fol. drg.*, 2 *figs.*

3405. 15 June. *C.a.P.* 5 Mar., 1906. P. E. Lewis, Clifton Hotel, Braamfontein, near Johannesburg, Transvaal, S.Af., engineer.

Bore-hole surveying.

Classes 00.4; 00.5; 85.2.

The several sectional indicators (which may be duplicated) are placed in a series in an external tube **1** that may be lowered in the bore-hole; each indicator is contained in a separate tubular case **3** supported by packing rings **6**, and each instrument is mounted on vertical trunnions **10** in plugs **4**, **5**, closing the casing **3**.

The indicators comprise a compass **12** and clinometer plummets, and they are locked after being lowered in the bore hole and settling to rest at the point to be surveyed.

An electrically controlled valve is then opened which admits compressed air (from a chamber formed by the extension of the casing **1**) through the pipe **21** to the inside tube **3** and by means of ports **89** it operates pistons **90** in the cylinders **88**. The piston rods are connected to the trigger levers **54a**, which release triggers holding the ends of the U-spring **92** causing the spring to force the plummets against the clinometer face and hold them in the position they have assumed.

The compressed air also enters through the space **28** in the casing **9** to the compass **12**, Fig. 4. The air enters through port **26**, past the rubber non-return valve **30**, into the space **34** and expands the rubber diaphragm **37** which engages the plate **44** and lifts the needle **14** until it is firmly held against the rubber ring **48** in the position it has assumed.

Modifications of the invention are shown in which the compass is swung in gimbals and the plummets are dispensed with, the compass box itself being locked in any position it assumes, by means of a spring stop released by the compressed air.

In other modifications for locking the magnetic needle, a rubber diaphragm placed above the needle forces the latter down on its seat; or the needle may be raised by means of a piston.

A number of the instruments may be used in the same outer casing one above the other, the hole **95** being utilized for the passage of air from one to the other.

3405/05

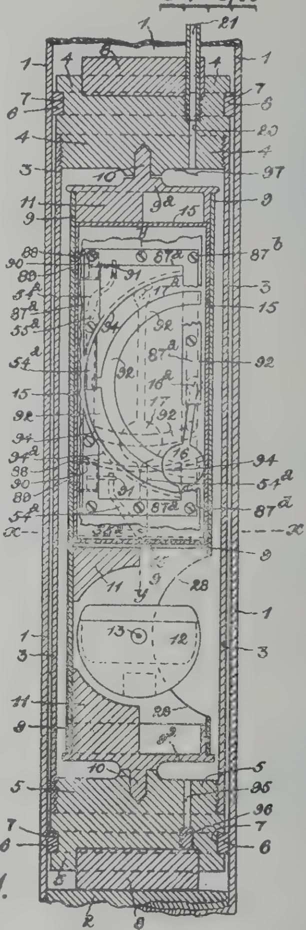


Fig. 1.

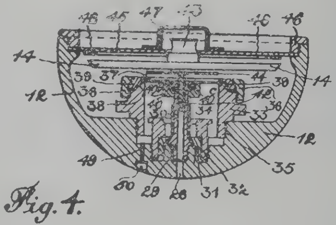


Fig. 4.

Prov. 14 *typed pages.*
Comp. 31 *typed pages*, 8 *claims*; 3 *fols. drgs.*, 17 *figs.*

3406. 15 June. F. Rich, *act. inv.*, Rushworth, Vic., agent, and G. F. Walbran, *assignee*, 50 Wattletree-road, Malvern, Vic., clerk.

Inflation coupling for pneumatic tyres.

Classes 74.7 ; 97.83.

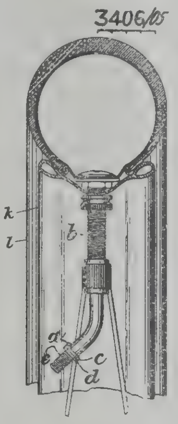


Fig.1

The valve nozzle is at the end of a tube bent to point laterally outward from the wheel, so that the end of the straight barrel of an air-pump may be connected direct with the nozzle without the use of flexible rubber tubing.

The nozzle may have either internal or external screws, or a tapered spigot, for connexion to the pump.

3 typed pages, 3 claims : 1 fol. drg., 3 figs.

3407. 15 June. *Prov. only.*

W. J. Nott, Blanchetown, S.A., engineer.

"An improved chain wrench or spanner."

Classes 72.1 ; 74.6.

3408. 15 June. *C.a.P.* 27 June.

D. S. C. Topp, Bunyip, Vic., saddler.

Legging fastenings.

Class 44.7.

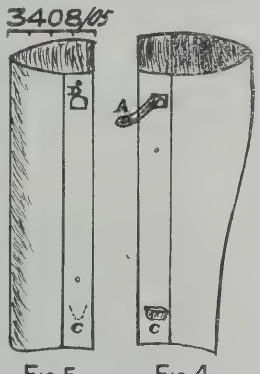


Fig.5 Fig.4

The edges of the legging have steel strips attached, the inner strip, Fig. 4, having a foot socket **C** for the toe of the outer strip Fig. 5, and a hinged tongue **A** which passes through a slot **D** in the outer strip and is folded down.

Prov. 2 MS. pages.
Comp. 3 M.S. pages, 2 clms. ; 1 fol. drg., 6 figs.

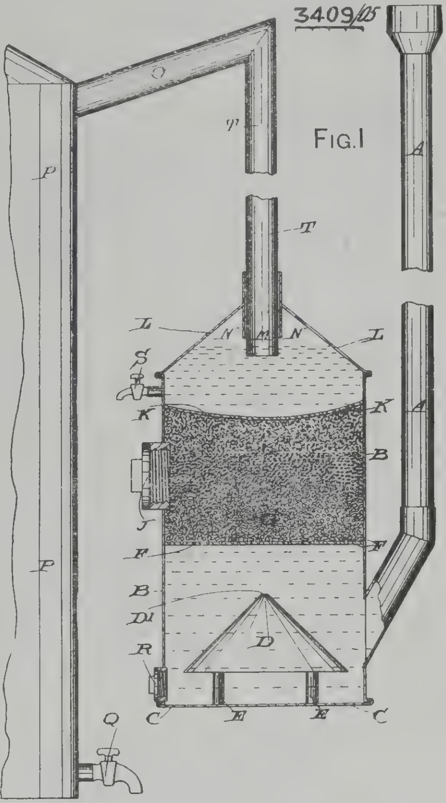
3409. 15 June. *C.a.P.* 15 Mar., 1906.

J. W. Worland and D. H. Worland, 2 Edward-street, Glenferrie, Vic., plumbers.

Roof water filter, &c.

Classes 28.1 ; 83.1.

The rain water from the down pipe **A** enters the bottom of the cylinder **B** ; sand or leaves collect on the cone **D** and may be removed through the plug **R** ; the water rises past the strainer **F** through the filter mass and the upper grating **K**, and overflows by the pipe **T** into the storage tank **P** ; filtered water may be drawn from **S** which has not mixed with the general store.



The filter mass may be of any usual materials, and is laid and changed through the plug or door **J**.

Prov. 6 typed pages.
Comp. 6 typed pp., 3 claims ; 1 fol. drg., 1 fig.

3410. 15 June. *C.a.P.* 15 Mar , 1906.

M. J. O'Farrell, 237 Collins-street, Melbourne, Vic., journalist.

Receipting stamp.

Classes 50.7 ; 55.5.

The outer casing **A** has a mouth **F** above the bottom plate **C** for the insertion of the bill, and an operating push rod **H**. A ring **L**, Fig. 6, on the push rod is guided by screws **M** in slots **R** and carries two longitudinal strips **N** at its foot which stamp such words as "Paid," "Jones & Co." ; mounted in the upturned ends of **N** are rollers **O** carrying the ink ribbon ; through the centre of the ring **L** is a rod **U** on which are threaded type rings **W**, which have numerals (on the lower half) on both their outer and inner peripheries ; the rings are set by pins **A**¹ which project through the slots **D** in the outer casing ; the central ring **L** carries a frame with rollers **E**¹ on which is wound a recording strip.

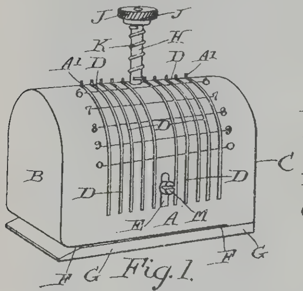


Fig. 1.

3410/05

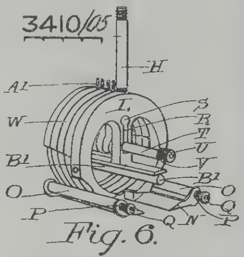


Fig. 6.

In operation the pins **A**¹ are set to the desired numerals for the date and value on the outer casing, the bill inserted in the mouth **F** and the rod **H** depressed, thereby printing the date and amount on the bill by means of the numerals on the outside of the rings and the strips **N**, and also impressing on the record strip the date and amount by means of the numerals on the inner periphery of the rings. On depressing the rod **H** the spring **T**¹ forces the rack **L**¹ against the pinion **K**¹ attached to the end of one of the rollers **E**¹, and thereby winds the record strip the desired extent and presents a fresh portion.

Prov. 6 *typed pages.*
Comp. 9 *typed pp.*, 4 *clms.* ; 1 *fol. drg.*, 7 *figs.*

3411. 15 June. *C.a.P.* 15 Mar., 1906.
A. Masseran, Aspendale, Vic., aviculturist.

Brooder.
Class 38.3.

A conical circular roof **C** is supported by a two-story central structure with a netted verandah space surrounding it ; the upper chamber **A** is lined with asbestos and has a door **D** through which a tray with a heating briquette may be introduced, the lower chamber is the nest, and is lined with flannel **G** with a depending curtain **H** ; the lower space is divided to prevent over-crowding by tubes **B** which open into the upper chamber and also form hollow pillars to support it by their lower ends which rest on the ground ; they also conduct the heat more evenly to the nesting space.

Fig. 1 3411/05

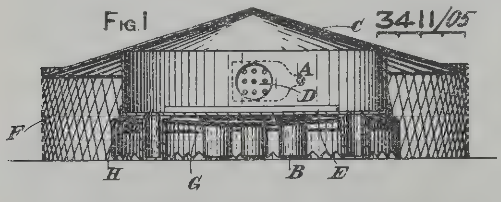
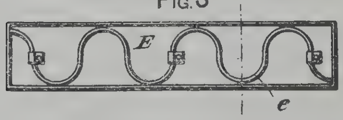


Fig. 3



Alternatively, the upper chamber may be heated by hot water or by a lamp.

Prov. 3 *typed pages.*
Comp. 4 *typed pages*, 3 *claims* ; 1 *fol. drg.*, 4 *figs.*

3412. 16 June. J. B. Archer, Kensington, Montgomery, Maryland, U.S.A., engineer.

Smoke prevention by whirling blast, &c.
Classes 16.8 ; 17.3 ; 17.7.

An air-box 8 surrounds the fire-box and has a double row of tuyeres whose openings are arranged tangentially to an inner circle, producing a cyclonic movement of the gases arising from the fuel and throwing unburned particles outward against the hot walls of the fire-box. The air is heated before delivery to the fire-box by passing it through coils **22** arranged in the smoke-box or beneath the rear portion of the boiler.

3412/05

Fig. 1.

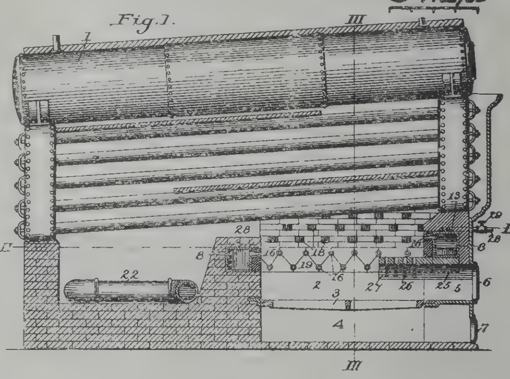
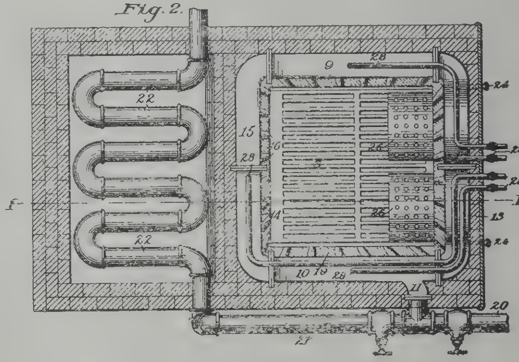


Fig. 2.



Dampers **24** are arranged in the sections of the conduit for the regulation of the air, and the pressure and temperature thereof may be ascertained by means of test pipes **28** communicating with the different sections.

The pressure of the air is sufficient to prevent cold air entering through the doors; cold air may be supplied through the pipe **20**.

The walls of the furnace are studded with projecting plumbago or firebricks **18**, which become incandescent and complete the combustion of the particles thrown against them; perforated arches **26** extend inwardly above the fire doors.

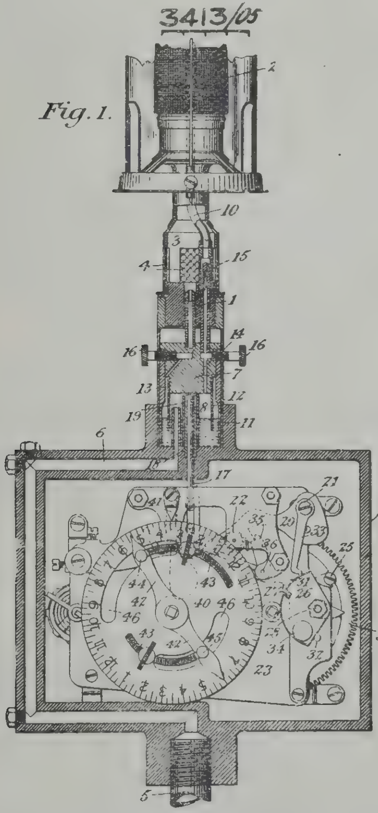
8 *typed pages,* 8 *claims;* 3 *fols. drgs.,* 8 *figs.*

3413. 16 June. F. M. Gregg, 89 Second-avenue, Cleveland, Cuyahoga, Ohio, U.S.A., manufacturer.

Gas lighting, &c., by clockwork.
Classes 00.1; 22.8.

The air-tight clock box **9** is a casting with a cranked passage **6** from the pipe **5** to the valve box, which contains a double annular mercury bell; on the central partition **12** being lifted out of the mercury, the gas passes from the central chamber to the outer one, and supplies the burner; when the valve is fully raised the pilot valve **15** is closed.

Fig. 1.



The clock-work moves a 24-hour dial, having two adjustable pins **44** and **45** projecting inward through curved slots **46** in the dial; the pins trip detents (similar to striking mechanism) at the appointed times for turning the light on or off.

The valve is lifted by a rod **17** and lever **20** with pivot spring **22**; the lever is normally held in the position in Fig. 1 with its rear end **21** lifted and held by the detent **35**, which, when tripped by the dial peg **44**, allows the spring **22** to lift the valve and light the lamp; the valve is held up by another detent which catches below the rod **17**, and is, in its turn, tripped by the other dial peg **45**, to put out the light.

During the light period, the lever **20** is again lifted by any one of screw heads **25** on the great wheel, which act through the arm **30** on the rock shaft **28**, and the notch-section **26** which catches the pawl **33**, hanging from the rear end of lever **20**.

11 *typed pages,* 10 *claims;* 2 *fols. drgs.,* 5 *figs.*

3414. 16 June. *Prov. only.*

W. J. C. Downey, South Perth, W.A., law clerk.

"Rapidly attachable and automatic wind-gauge for the back sights of rifles.

Class 89.5.

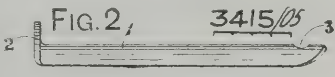
3415. 16 June. *C.a.P.* 16 Mar., 1906.

J. C. Dallas, Cosmopolitan Club, Wanganui, Wellington, N.Z., steward.

Handle fastener for axes, &c.
Class 80.3.

A metal plate **1** curved in section has a flange **2** bent up at one end and a hole **3** at the other end.

FIG. 2.



The plate is inserted within the eye of the axe or hammer with the flange outside the head; the handle is then inserted and a nail or screw passed through the hole into the handle to prevent the head flying off when loose.

Prov. 2 *typed pages.*
Comp. 2 *typed pages,* 1 *clm.;* 1 *fol. drg.,* 5 *figs.*

3416. 16 June. *Comp. lapsed.*

T. J. A. Macdonald, 1031–1037 Majestic Building, Detroit, Wayne, Michigan, U.S.A., gentleman.

Amalgamating table; submerged cylinder, &c.

Classes 13.2; 13.5.

An inclined amalgamating table covered with copper has mercury wells in sets containing transverse and inclined submerged rollers of copper plate, driven by lay shafts 11, 16, and bevel gear.

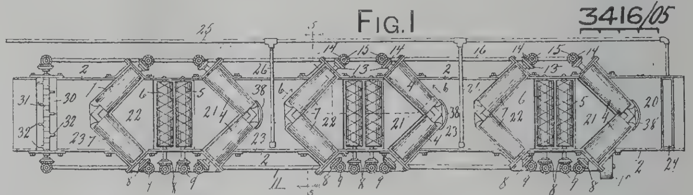


FIG. 1

Each set comprises two inclined rollers **4**, two transverse rollers **5** and **6** with helical grooves, Fig. 7, followed by two other transverse rollers **7**.

The cylinders **4** are arranged in the wells so that their ends extend beyond the sides of the table, and so that they are for the most part immersed in the mercury; the rollers **6** run faster than the rollers **5**, to prevent congestion of the pulp; a water trough **27** overflows at the head of the table and accelerates the passage of the pulp over the revolving cylinders and plates.

At the discharge end of the table, a trough **30** with a rotating shaft and beaters **32**, separates the mercury from the tailings.

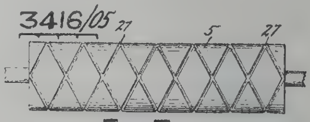


FIG. 7

12 *typed pages*, 7 *claims*; 3 *fols. drgs.*, 8 *figs.*

3417. 16 June. *Comp. lapsed.*

C. M. Foster, Vine-street, Clayfield, Brisbane, Qld., mechanical engineer.

"Machine for peeling pine-apples, melons, other fruit or vegetables."

Class 34.1.

3418. 16 June. E. G. Partridge, "Plumstead," Dutruc-street, Randwick, N.S.W., commercial traveller.

Application under Sec. 7.

N.S.W. ... 12,387 ... 21 Aug., 1902

Wheeled shovel for street cleaning, &c.

Classes 84.3; 86.5.

A sheet metal shovel or scraping scoop **A**, with a trussed handle **F**, has a pair of clips at the back which rest on an axle **D** with small wheels **E** which lift the rear of the shovel, and prevent it dragging on the ground when the front edge is in contact with the pavement.

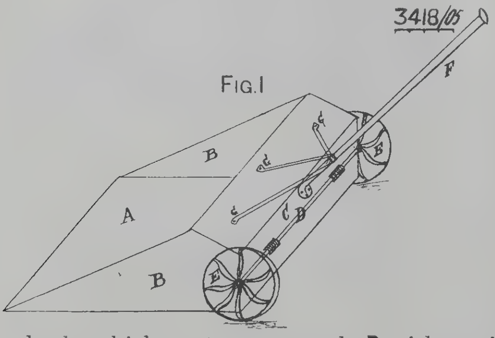


FIG. 1

2 *MS. pages, no claim*; 1 *fol. drg.*, 1 *fig.*

3419. 16 June. *Comp. lapsed.*

F. L. Brown, 17 Hunter-street, Sydney, N.S.W., accountant (*assignee of* T. H. Moyle, *act. inv.*),

"Improved razor strop."

Classes 43.7; 75.2.

3420. 16 June. *Prov. only.*

R. Louat, 369 George-street, Sydney, N.S.W., architect, and T. Goodfellow, Ferrier-street, Rockdale, N.S.W., modeller.

"Sheathing brick."

Classes 19.1; 81.1.

3421. 17 June. G. W. Berry, *act. inv.*, T. R. Ashworth, and J. J. Sneesby, *assignees* (Berry Patent Can Mfg. Co.), Clarke and Haig streets, South Melbourne, Vic.

Screw-top cans.

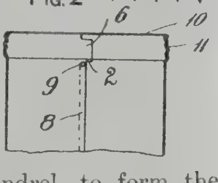
Classes 57.5; 73.8.

To insure a good fit in tapered screws for the lids of cans with seams, small portions of the metal at the seam near the screw are cut away, so as to reduce the thickness at the lap **6** under the screw, where the joint is lapped without folding.

After the cylindrical body is bent and locked at **8**, the folded seam is crimped at **9**, the lid **10** is placed over the body, and then both body and can are spun together on a mandrel, to form the conical tapered threads simultaneously on the body and lid.

3421/05

Fig. 2



4 *typed pages*, 5 *claims* ; 1 *fol. drg.*, 3 *figs.*

3422. 19 June. *Comp. lapsed.*

G. McPherson, furniture dealer, and S. Rutherford, carpenter, 277 Forbes-street, Darlinghurst, N.S.W.

"Cutlery cleaner."

Classes 75.6 ; 76.8.

3423. 19 June. *Prov. only.*

J. L. S. Hardtmann, 39 Curtis-road, Balmain, N.S.W., shopkeeper.

"A combined milk bucket and strainer."

Class 36.2.

3424. 19 June. *Prov. only.*

W. Matthews, Peak Hill, N.S.W., machinery expert.

"An improved comb for stripper harvesters."

Class 32.3.

3425. 19 June. *Prov. only.*

R. H. Schinkel, Victor-street, Charters Towers, Qld., amalgamator.

"An improved vehicle for transporting and displaying goods."

Class 93.1.

3426. 19 June. *C.a.P.* 19 Mar., 1906.

W. H. Hussey, King William-street, Adelaide, S.A., mining agent (*nominee of* L. Schmidt, *act. inv.*, Westbury-street, Hackney, S.A., engineer).

Cushion tyre ; removable core, &c.

Class 97.81.

The core **a**, Fig. 1, may be either a solid rod, or a closed tube of rubber and canvas, without means of renewing inflation.

The outer cover **b** is of rubber, with canvas insertion strips **b1**, and the usual circumferential wires **b2** embedded in the edges ; the inner part is divided at **c** for the insertion or removal of the core ; the base is nominally raised from the rim at the middle, so that the edges **e** are forced laterally into the incurved edges **f** of the rim when the load presses on the tyre.

3426/05

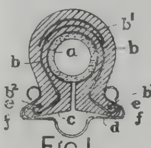


Fig. 1

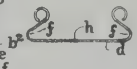


Fig. 4

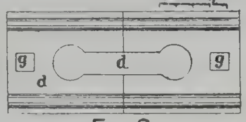


Fig. 3

The sheet metal rim **d** is jointed, as in Figs. 3 and 4, by a dovetailed strip **d** with enlarged rounded ends, that is brazed into corresponding gaps cut in the butted ends. The rim may be attached to wooden or other felloes by bolts with square countersunk heads **g**.

Prov. 3 *typed pages.*
Comp. 5 *typed pages*, 4 *claims* ; 1 *fol. drg.*, 4 *figs.*

3427. 19 June. *Prov. only.*

R. Morris, 35 Moy-street, St. Kilda, Vic., bicycle maker.

"A clamp and adjuster for securing motor tyre protectors and the like."

Class 97.89.

3428. 19 June. *Prov. only.*

E. Wallis, Charlotte-place, St. Kilda, Vic., agent.

"Improvements in means for facilitating discharge of fluid from cans and other vessels."

Class 22.4.

3429. 19 June. W. A. Büsst, R. Bills, *assignees*, and W. Bills, *act. inv.* (Büsst & Bills Brothers), Sturt-street, South Melbourne, Vic., wire mattress manufacturers.

Wire mattress, supporting wires.

Classes 46.1 ; 58.4.

3429/05

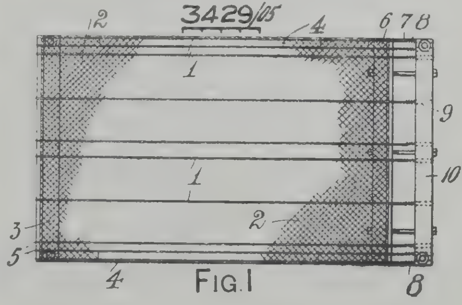


Fig. 1

To reduce the sagging, stout wires **1** (longitudinally threaded through the fabric **2** of coiled or woven wire) are connected at one end to the bottom bar **5** of the frame, and at the other end to springs **8** connected to the top bar **10** of the frame.

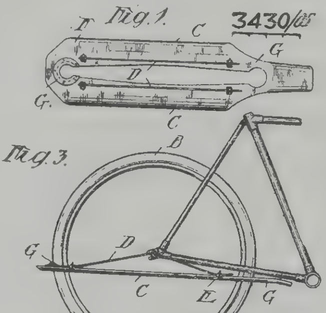
5 *typed pages,* 3 *claims;* 2 *figs.* *No drawing.*

3430. 19 June. *C.a.P.* 19 Mar., 1906. *Lapsed.*

J. Rainbow, 454 Collins-street, Melbourne, Vic., farmer.

Mud guard, &c.

Class 94.9.



Mud-guards for cycles, &c., consist of horizontal frames **C**, **C** (placed on each side of the wheel) adjustably attached to the axle by rods **D** and clamps **E** with wing-nuts.

The outer edges of the frames incline slightly downward to allow the mud and water to drop clear of the wheel when wiped off. The frame may be made of wire covered with rubber, aluminium, or other light and stiff material, with the edges as close to the wheel as possible without checking its motion.

At the front and back of the frame the tyre and scrapers **G** are attached which surround the pneumatic tyre.

Prov. 2 *typed pages.*
Comp. 4 *typed pages,* 4 *claims;* 1 *fol. drg.,* 4 *figs.*

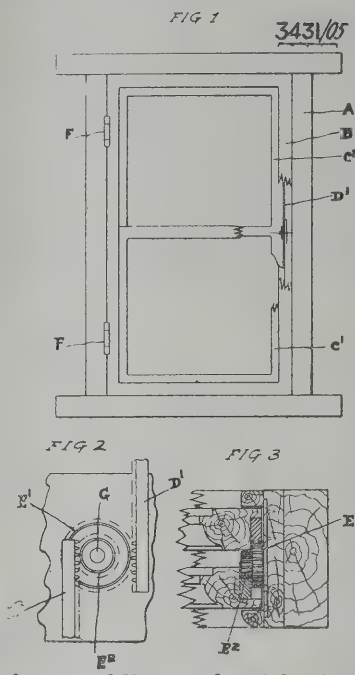
3431. 19 June. *C.a.P.* Mar., 1906.

C. M. Soule, 82 William-street, Melbourne, Vic., agent.

Rack and pinion sash balance.

Class 78.7.

Racks **D1**, **D2** are recessed in the vertical bars of pairs of sashes, with their teeth facing but in different planes, as Fig. 3; between them pinions **E1** **E2** are mounted on a pivot **G** fixed to the window frame; the diameters of the pinions are different, so that one sash may open more rapidly than the other.



With light sashes, the toothed gear may be replaced by roughened cylinders, pressed together by springs; the absence of lines and weight facilitates the use of hinges **F** on the frames when it is desired to open the window as a casement.

Prov. 3 *typed pages.*
Comp. 4 *typed pages,* 3 *clms.;* 1 *fol. drg.,* 3 *figs.*

3432. 19 June. J. W. Riep, 170 Ellerstr, chemist, and G. H. Bauer, 35 Hildenerstr, Dusseldorf, Germany, merchant.

Greasing textile fabrics.

Classes 25.1 ; 40.0 ; 41.0.

The greasing medium is made from vegetable oils, such as castor, olive, cotton seed, &c., incompletely saponified with soda solution at about 99° C.

The composition may contain 100 kg. castor oil, 50 kg. caustic and 130 kg. of water added in stages.

This preparation can be completely removed from spun and woven goods by washing in water, without other chemicals.

7 *typed pages,* 8 *claims.* *No drawing.*

3433. 19 June. *Prov. only.*

W. E. Smith, Waverley-road, East Malvern, Vic., plumber.

"Improvements in bath-heaters."

Class 24.5.

3434. 19 June. *Prov. only.*

W. H. Hussey, Broken Hill Chambers, King William-street, Adelaide, S.A., agent (*agent of* W. Telfer, *act. inv.*, Southwark, S.A., chemist).

"An improved method of making pigments from certain sulphide ores."

Class 79.2.

3435. 19 June. *Prov. only.*

F. Walsh, 23 Elizabeth-street, Sydney, N.S.W., patent attorney.

"An improved pocket calculator or ready reckoner."

Class 56.2.

3436. 19 June. *Comp. lapsed.*

W. Boyle, 121 Young-street, Redfern, N.S.W., labourer, and J. Dagg, Frenchman's-road, Randwick, N.S.W., miner.

"Improved fastening specially applicable to boots shoes leggings and kindred articles."

Classes 44.1; 44.7.

3437. 19 June. R. Farr and A. Sommerville, 15 Pitt-street, N.S.W., grocers.

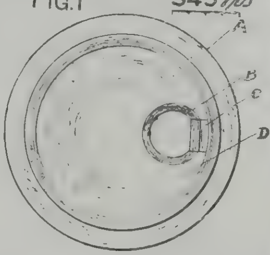
Opening cans.

Class 57.5.

To facilitate the opening of food cans with pressed recessed lids, a metal ring **B** is attached near the periphery of the lid.

3 *typed pages*, 1 *claim*; 1 *fol. drg.*, 2 *figs.*

Fig.1



3438. 19 June *Comp. lapsed.*

E. V. Surr, 116 Wallis-street, Woollahra, N.S.W., commercial traveller.

"Self-sustaining expansion wardrobe."

Class 45.4.

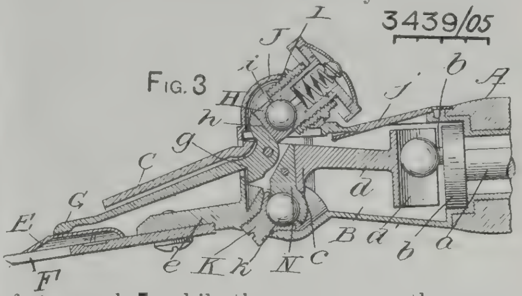
3439. 20 June. H. S. Burley, 61 West Jackson Boulevard, Chicago, Cook, Ill., U.S.A., machinist.

Sheep shears.

Classes 37.6; 60.7.

To avoid backlash in the bearings, the rocker-lever **d** is supported on a vertical axis passing through the centres of two spheres **i**, **k**, which are so mounted that the single adjusting screw **I** removes all shake; the screw **I** is set at about 45 degrees, and its thrust is divided between the lower bearing **K** and the cutter **E**; the forward arm of the lever is divided, the upper arm **C** is forked and bears directly on the sides of the comb **E**, while the pressure on the centre of the comb at **G** is given by a floating lever **g** pivoted in the rocking lever and having an arm **h**, bent at right angles to the screw **I**, on the flat end of which **h** is the seat for the spherical cup **H** containing the upper ball **i**; the lower ball **k** is supported on an adjusting seat **K**; a ball-closed oil cavity is formed in the screw **I**.

Fig. 3



9 *tpd. pp.*, 16 *clms.*; 2 *fols. drgs.*, 8 *figs.*

3440. 20 June. T. Rouse, 7 Oldhill-street, Stamford Hill, London N., England, gentleman, and H. Cohn, Brunswick-square, St. Pancras, London W.C., England, merchant.

Briquettes.

Class 20.2.

Coal-dust briquettes are agglomerated with water-glass and petroleum emulsified with cream of lime; a little iron slag containing silicate of iron may be added to delay the combustion of the briquettes when used as fuel.

2 *typed pages*, 1 *claim*. *No drawing.*

3441. 20 June. *Prov. only.*

W. Gregson and E. G. O. Ingram, both of Sea Lake, Vic., farmers.

"Fastening devices for horse shoes."

Class 39.3.

3442. 20 June. F. W. Dupré (*Ph.D.*), 1 Gartenstrasse, Leopoldshall, Anhalt, Germany, chemist.

Alcohol in the cyanide process.

Class 14.4.

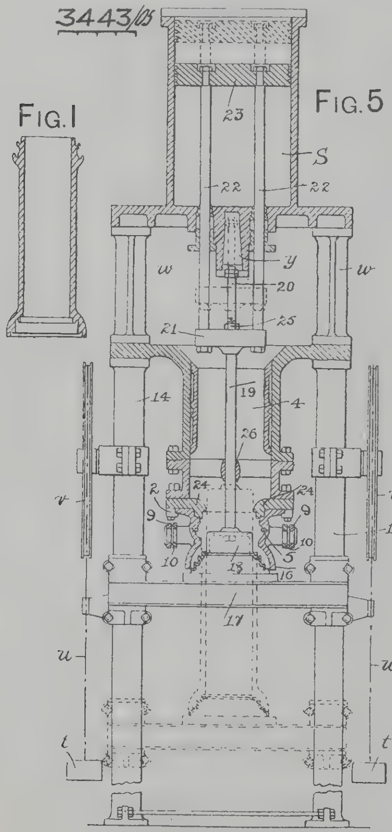
Alcohol is added in small amount to the aqueous solution of cyanide, and the higher quantity of oxygen absorbed in presence of the alcohol increases the dissolving power of the solution.

3 typed pages, 2 claims. No drawing.

3443. 20 June. H. Coulthurst, 1 Avondale-road, Darwen, J. Coulthurst, 51 Blackburn-road, Darwen, Armena Coulthurst, 7 Amelia-road, Darwen, M. Yarrow, 9 Ivy-road, Smithills, Bolton, and W. R. Haworth, 16 Ivy-road, Smithills, engineers, all of Lancashire, Eng.

Earthenware pipes.
Class 19.1.

In moulding extruded clay pipes with enlargements on the spigot end as well as the socket, as in Fig, 1, the external moulds **16** for both the socket and spigot are conjoined vertically but divided in the plane of Fig. 5 for lateral withdrawal by a hand-wheel and eccentrics linked at **9**, **10** to the halves, which move horizontally on slides.



The core-die **18** is normally supported at the neck of the socket part of the divided mould by the sleeve **20** (with internal rod **19**) from the bearing **y**; and the bottom of the mould is closed by the pattern for the interior of the socket, which rests on the beam **17**.

The first descent of the clay plunger **21** (sliding over the rod **20**) consolidates the clay in the moulds for both socket and spigot; the descent of the beam **17** in the usual manner allows the extrusion of the desired length of pipe (as shown in dotted lines); the piston **21** then rises and, at its top position, picks up the nuts **25** and lifts the internal rod **19** and the die **18**, thus finishing the interior of the sockets.

The moulds are removed laterally, and the pipe further lowered, any loose underhung rings (such as **5**) are removed by hand and replaced in the mould.

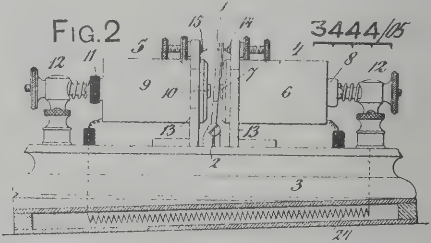
Alternative arrangements of collars for picking up the die **18**, &c., are shown.

8 typed pages, 3 claims; 4 fols. drgs., 7 figs.

3444. 20 June. L. S. Andrews, New York, U.S.A., accountant (*assignee of* A. and L. G. Vera, *act. invs.*, Queretara, Mexico, inventors).

Differential relay.
Classes 04.3; 05.2.

To reduce the necessity for frequent adjustment of telegraphic and other electric relays, while retaining satisfactory action under considerable current variations, the opposed circuits are differentiated by providing one magnet **6** with an iron yoke whilst the other **9** may have a non-magnetic connexion **11**, and resistances **24** may be inserted in one side of the connexions, thus causing the fields to increase or decrease concurrently, but the one part more rapidly than in the other.



The magnets **6** and **9** are in parallel on the live wires, the tongue being in the second circuit as usual.

9 typed pages, 5 claims; 1 fol. drg., 3 figs.

3445. 20 June. *C.a.P.* 23 Feb., 1906.

E. Phillips, 533 Collins-street, Melbourne, Vic., patent attorney (*communicatee of* J. W.

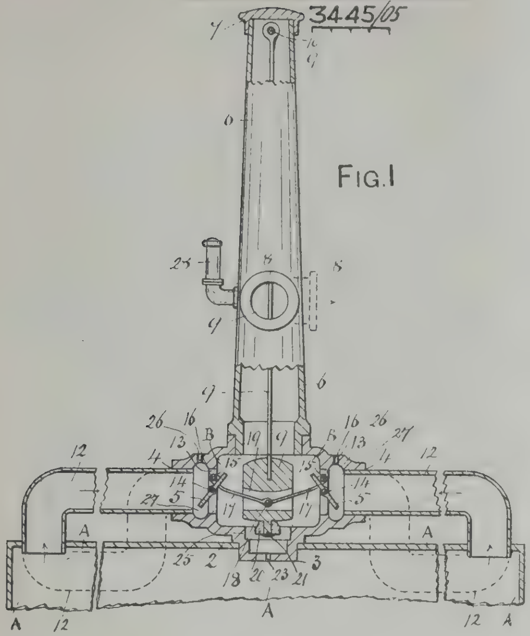

3445/05

FIG. I

Tallman, *act. inv.*, Beamsville, Lincoln, Ontario, Canada, mechanic).

Preventing priming in moving boilers.

Classes 61.2; 63.7; 92.2; 95.2.

The valve chamber **B** is connected to the boiler **A** by steam pipes **12** and drain hole **23**; a tubular column **6** over the valve chamber encloses a pendulum **9** hung from the pin **10**; butterfly valves **5** are connected to the pendulum **9** by links **17**.

When the boilers of marine or portable engines are inclined from one side to the other the pendulum swings and closes the valves **5** on the low side, preventing froth passing to the steam pipe **8**, or the safety valve **28**.

Prov. 5 *typed pages;* 1 *fol. drg.,* 3 *figs.*
Comp. 6 *typed pages,* 3 *cls.;* 1 *fol. drg.,* 3 *figs.*

3446. 20 June. *Prov. only.*

P. F. Abbott, *act. inv.*, 102 High-street, Windsor, Vic., chemical manufacturer, and F. G. Renshaw, *assignee*, 257 Park-street, South Melbourne, Vic., builder and contractor.

"An improved self-adjusting automatic chimney cowl."

Class 17.1.

3447. 20 June. A. E. Davis, Cumberland House, 94 Pritchard-street, Von Brandis-square, Johannesburg, S. Africa, engineer.

Distribution of deposit in gang-filters.

Class 28.1.

In gang-filters in which grooved plates are covered with filter cloth, outside of which a thick deposit is collected by the removal of the liquor from the grooves, the deposit often extends around the edge of the cloth and abuts on the walls of the containing case, but on the reversal of flow such parts of the deposit are not removed, owing to the absence of direct current through the cloths at these places.

Fig. 2 shows a filter in which sufficient space **1** is allowed between the wall **2** and the edge of the plate **13** to prevent this encroachment extending up to the wall **2**; at the top of each plate the grooves are omitted from a strip **26**, and the band **22** which holds the canvas on the plate entirely prevents deposit at the upper edge; thus the deposit forms, as shown enlarged in Fig. 6, and the reverse current gets behind the whole of the deposit.

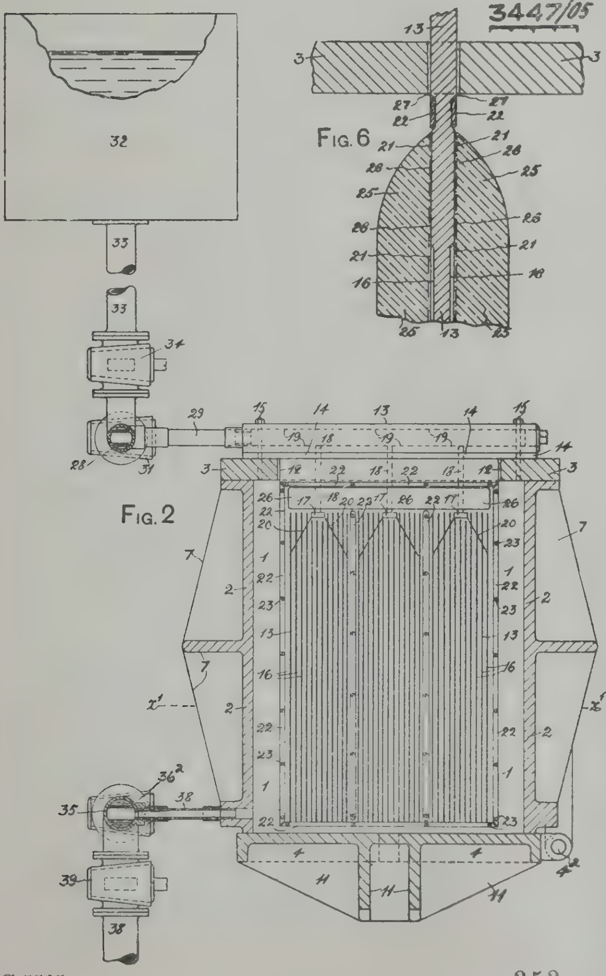

3447/05

Fig. 6

Fig. 2

Several modifications of the attachments for obtaining the non-filtering band in different circumstances are shown.

The bottom **4** of the case is hinged to open downward, and is fastened when closed by hinged bolts; it has usual inlets and outlets as shown.

20 *typed pages*, 6 *claims*; 8 *fols. drgs.*, 19 *figs.*

3448. 20 June. H. S. Elworthy, Battlefield-road, St. Albans, Herts., Eng., chemical engineer.

Purified coal gas, &c.
Classes 09.3; 16.30; 21.1; 21.2; 21.5.

Coal gas for lighting or heating is modified and purified by passing over heated nickel, whereby carbon oxides and hydrogen are converted to methane and water by the well-known reactions, thus:—

$$CO + 3H_2 = CH_4 + H_2O$$
$$CO_2 + 4H_2 = CH_4 + 2H_2O$$

The higher hydro-carbons other than methane are previously separated from the coal gas by passing it through a scrubber containing a hydro-carbon oil; other impurities such as NH_3 and SH_2, &c., are also removed from the gas.

When the coal gas contains insufficient hydrogen, it is sometimes mixed with water or fuel gas, rich in hydrogen and carbon oxides, before being subjected to the action of nickel; a combination of three gas producers for producing a suitable mixture is illustrated.

FIG. 2

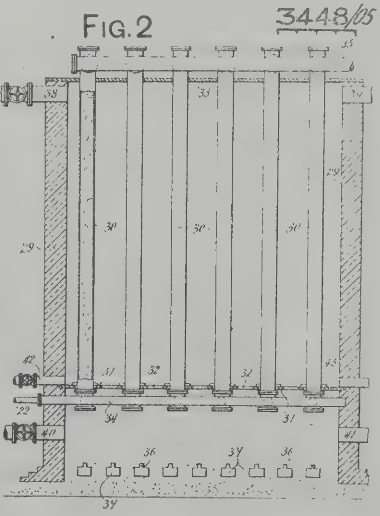


Fig. 2 shows a chamber **29** for heating the nickel, having vertical tubes **30** filled with the nickel in suitable form; the gas to be treated is admitted by the pipe **34** and taken off by **35**; the tubes or retorts **30** are heated by gas jets **36**, and cold air or steam may be admitted at **40** and **41** to regulate the heat; the burnt gases pass off at **38** and **39**.

If the gas contains both oxides of carbon, the CO is first removed in a nickel chamber at about 250° C., and the CO_2 in a second chamber at about 350°.

The product may be afterwards enriched or carbureted.

18 *letterpress and typed pages*, 21 *claims*; 3 *fols. drgs.*, 3 *figs.*

3449. 20 June. H. S. Elworthy, Battlefield-road, St. Albans, Herts., Eng., chemical engineer.

Non-poisonous fuel gas.
Classes 09.3; 21.2.

To produce a cheap gas free from the toxic properties of carbon oxides, water gas is mixed with excess of hydrogen, &c., to facilitate the conversion of the CO into CH_4 by passage over finely-divided nickel at 250° to 350° C.

The gas may be carbureted by passing it through a gas retort in which coal gas is undergoing distillation.

Reference is made to 3448/*05* and to G.B. 12,461/*02*.

8 *letterpress pages*, 7 *claims*. *No drawing.*

3450. 20 June. H. S. Elworthy, Battlefield-road, St. Albans, Herts., Eng chemical engineer.

Nickel for catalytic use.
Classes 07.9; 08.8.

Nickel for use in the processes 3448/*05*, 3449/*05* or otherwise is prepared in active form in porous grains or with extended surface.

In one form, oxide or other compound of nickel is treated by hydrogen or other reducing gas on refractory trays in a gas furnace heated to about 400° C.; after the nickel is reduced nitrogen or other inert gas is admitted, and the temperature raised without fusion; when cold it may be broken into grains of any required size.

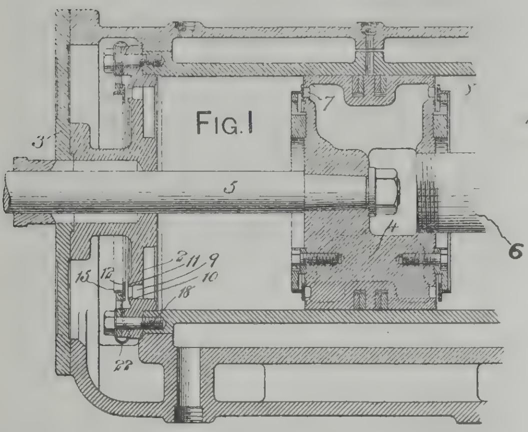
In another form, finely-divided nickel is deposited on porous refractory material (fire-brick, asbestos, &c.) by passing nickel-carbonyl $Ni(CO)_4$ over it when heated to 100° C.

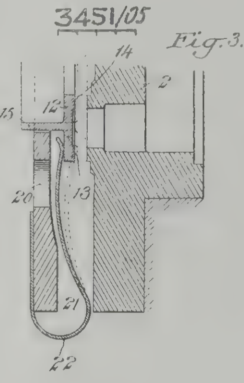
3 *letterpress pages*, 3 *claims*. *No drawing.*

3451. 20 June. The Ingersoll-Sergeant Drill Co., 26 Cortlandt-street, New York, U.S.A., machinery manufacturers (*assignees of* W. Prellwitz, *act. inv.*, Easton, Northampton, Penn., U.S.A., mechanical engineer).

Ring discharge valves for compressors.

Classes 69.4; 74.8.





In compressors of the piston-inlet type, the discharge ring valves **15** in the cylinder heads **3** are made of light ⊥-bars, guided by annular plates **20** which also limit the outward movement of the valves; the plates **20** are bolted to lugs standing above the cover to allow air-vent at both sides of the ⊥-bar **15**; the valves are closed by plate springs **22**, which are mounted between the guide **20** and the cylinder cover.

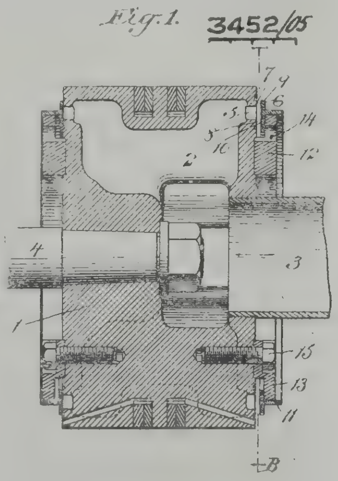
7 typed pages, 4 claims; 2 fols. drgs., 4 figs.

3452. 20 June. The Ingersoll-Sergeant Drill Co., 26 Cortlandt-street, New York, U.S.A., machinery manufacturers (*assignees of* W. Prellwitz, *act. inv.*, Easton, Northampton, Penn., U.S.A., mechanical engineer).

Ring valves for piston compressors.

Classes 69.4; 74.8.

In compressors of the piston-inlet type, inlet ring valves **11** on the piston are made from light bars **T**–, **L**–, or channel in cross-section. The valves are guided by annular plates **13** bolted to the piston **1**, which bear against the flange of the ring and also limit the range of opening; to allow escape of fluid on the inner side of the ring, holes **14** are bored in the plates **13**.



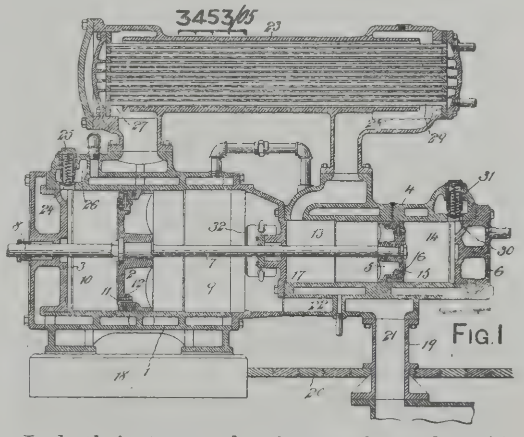
7 typed pages, 3 claims; 1 fol. drg., 5 figs.

3453. 20 June. The Ingersoll-Sergeant Drill Co., 26 Cortlandt-street, New York U.S.A., machinery manufacturers (*assignees of* W. Prellwitz, *act. inv.*, Easton, Northampton, Penn., U.S.A., mechanical engineer).

Compound single-acting compressor.

Classes 29.5; 69.4.

The HP and LP cylinders **10**, **14** are connected in tandem, the outlet **26** of the LP cylinder being connected through an interlocker **23** with the inlet **28** of the HP cylinder.



In both instances the ring suction valves **11**, **15** are situated in the pistons; the suction ends of the cylinders, being adjacent, are separated by a cylinder head **17** common to both cylinders, a manhole **32** being provided for access to the packing.

7 *typed pages*, 4 *claims*; 1 *fol. drg.*, 1 *fig.*

3454. 20 June. INGERSOLL-SERGEANT DRILL Co., 26 Cortlandt-street, New York, U.S.A., machinery manufacturers (*assignees of* W. PRELLWITZ, *act. inv.*, Easton, Northampton, Penn., U.S.A., mechanical engineer).

Starting air compressors without heavy starting torque.

Classes 04.7; 61.9; 65.9; 69.4.

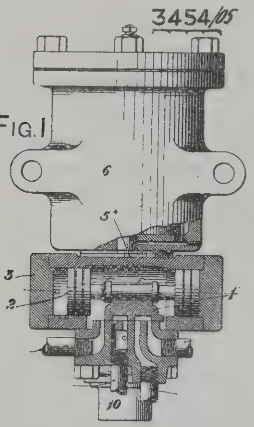
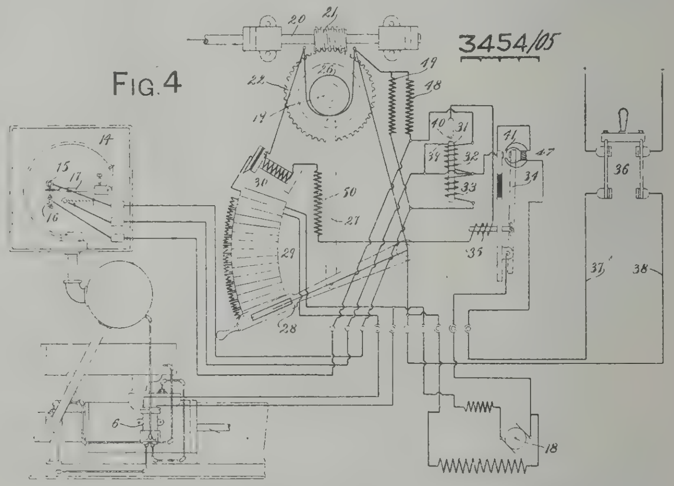


FIG. I



To reduce the initial current in starting electrically driven air compressors the electric unloading valve is operated before the motor is started, and the pump load is not thrown on the motor driving the air compressor until such motor has run up to speed.

The bourdon tube **14**, Fig. 4, in communication with the main air reservoir operates a two-way switch **17**, when the pressure in the air accumulator reaches the maximum or minimum. This two-way switch controls a magnetic relay **31**, which in turn controls the circuit of a magnetically operated motor switch **34**. The motor started is mechanically connected by worm gearing to the magnetic clutch **26**, operating the starting switch **28**.

The unloader, Fig. 1, has a small valve (operated by a solenoid and rod **5***, in series with the main motor circuit) which controls the release valves; the rod **5*** moves the small valve to admit fluid to the pistons **2** on the slide valve **1** of the regulator.

To start the pumps when the air pressure has fallen to the minimum, the two-way switch **17**, short circuits **33**, closes **40**, and completes circuits **35**, **26** and **30**, closing contact **41**, and starting the motor **18**, through the first point of the rheostat **29**, and the magnetic clutch **26** gradually lifts the arm **28**, which is held up by magnet **30**. On closing the motor circuit the unloader opens both sides of the air compressor piston to the atmosphere. As the motor runs up to speed, so the starting switch **28** is operated, until it reaches the last notch, when the unloader circuit **7** is short circuited, and the compressor is connected to the main reservoir.

When the pressure in the reservoir has risen sufficiently high the bourdon tube throws over the two-way switch **17**, short circuits the magnetic control of the main switch **34**, and cuts out the motor; the magnet **30** is also released, and the arm **23** allowed to fall.

9 *typed pages*, 2 *claims*; 2 *fols. drgs.*, 5 *figs.*

3455. 20 June. E. E. HANNA, 820 Elston-avenue, Chicago, Cook, Ill., U.S.A., engineer.

Portable riveters; graduated pressure, &c.

Class 71.6.

To obtain increased leverage at the end of the compression of the rivet with also a considerable range of the high-pressure part of the stroke of the plunger **c**, Fig. 1, the power from the piston **M** is transmitted by the lever **p** to the floating lever **e**, which has a swinging fulcrum on links **f**, and applies the pressure to the plunger **c** through the toggle link on the short arm of **e**; by this linkage the first 4 or 5 inches of the piston motion gives a rapidly decreasing velocity ratio to the plunger, beyond which the latter 6 inches of the piston motion give continuous high pressure.

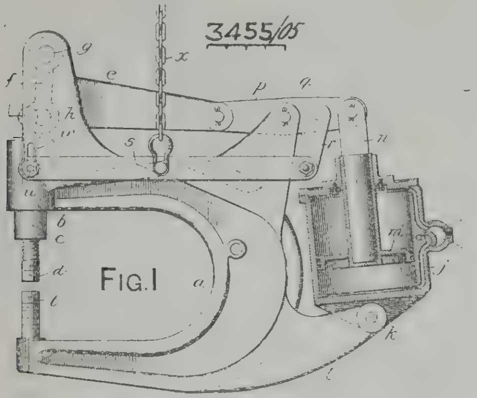

3455/05

FIG. 1

To enable rivets to be inserted point downward for closing from below, the machine is slung from levers **5**, coupled at **u** to the plunger, so that the plunger remains in operative position while the body of the C–frame descends as the piston is lowered.

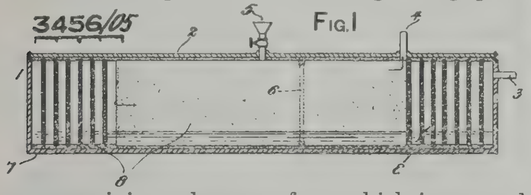
13 *typed pages,* 15 *claims;* 2 *fols. drgs.,* 5 *figs.*

3456. 20 June. M. D. Compton, 116 Nassau-street, Manhattan, New York, U.S.A., manufacturer.

Air carbureter.

Class 21.4.

A rectangular chamber **1** is divided by a vertical metal partition **8**, forming a long spiral passage giving a large surface which is covered with fabric saturated with gasolene by capillary action from below; a tube-gauge **6** shows the depth of fluid in the chamber.


3456/05 FIG. 1

4 *typed pages,* 6 *claims;* 1 *fol. drg.,* 2 *figs.*

3457. 20 June. *Prov. only.*

C. H. L. Fossey, 119 Edgeware-road, Marrickville, N.S.W., tinsmith.

"Can rollers."

Class 73.2.

3458. 21 June. *Prov. only.*

E. J. Hume and W. R. Hume, Flinders-street, Adelaide, S.A., machinists.

"An improved trap nest for poultry."

Class 38.1.

3459. 21 June. *Prov. only.*

A. H. Crockford, 1 Amess-street, East Brunswick, Vic., box maker.

"An improved reversible cushion top piece for heels of boots and shoes."

Class 44.3.

3460. 21 June. *Prov. only.*

R. Faulkner, North Western-road, St. Arnaud, Vic., commission agent.

"An improved combination cork extractor and attachments for withdrawing and regulating the discharge of gaseous or fermented liquids from bottles."

Class 57.5.

3461. 21 June. *Prov. only.*

A. Odgers, North-terrace, Hackney, S.A., manufacturer.

"An improved fare receiver and register for use on trams, buses, and like purposes."

Class 54.2.

3462. 21 June. J. Edgerton, 105 Dudley-street, Melbourne, Vic., iron manufacturer.

Wheel spoke.

Classes 31.1; 97.2.

Metallic spokes for implement wheels are constructed by taking a rod of iron or steel of the normal size required for the spoke, and setting-up an enlarged part **D** for the thread, and at a suitable distance therefrom an enlarged part **B** for the head of the spoke, leaving an intermediate space **C** approximately the diameter of the spoke.

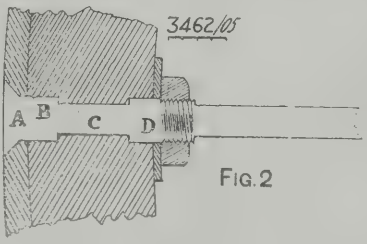

3462/05

FIG. 2

4 *typed pages,* 2 *claims;* 1 *fol. drg.,* 2 *figs.*

3463. 21 June. *Prov. only.*

A. McKay, Trawool, Vic., contractor.

"Improvements in the operating mechanism of cultivators known as seed-sowers."

Class 31.1.

3464. 22 June. *Prov. only.*

H. Berry, 568 to 580 Collins-street, Melbourne, Vic., merchant (*assignee of* R. Rayson, 18 Union-street, Windsor, Vic., engineer).

"Improvements in ammonia compressors for refrigerating purposes."

Class 29.4.

3465. 22 June. T. D. Merton, 17 Queen-street, Melbourne, Vic., metallurgist.

Application under Sec. 7—

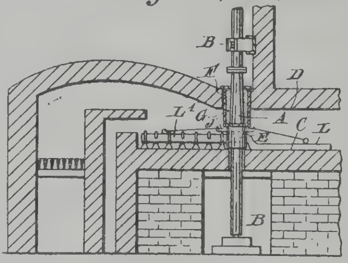
N.S.W. ...	12,193 ...	30 June, 1902
Vic.	19,410 ...	30 June, 1902
S.A.	7762/5742 ...	30 June, 1902
Qld.	6709 ...	1 July, 1902
W.A.	3931 ...	8 July, 1902

Rotary rabble shafts.

Classes 16.5; 19.2.

Vertical shafts **A** for rotating rabbles **L**, **L**^{1} are protected from corrosive gases by a jacket **C** of clay and soda silicate, which is rammed between the shaft and an outer shell **F** that may be subsequently allowed to decay without the plaster falling away; the rabble arms **E** are hitched in mortises on the shaft and hung by brace rods to a hooked bar passing through an upper mortise.

Fig·1 3465/05



5 *typed pages*, 3 *claims*; 1 *fol. drg.*, 4 *figs.*

3466. 22 June. *Prov. only.*

A. Nordström, 1 Princes-street, Sydney, N.S.W., engine-driver.

"Improvements in vehicle 'slips' or horse releasing devices."

Class 39.4.

3467. 22 June. *Prov. only.*

G. W. Berry, *act. inv.*, T. R. Ashworth, and J. J. Sneesby, *assignees* (Berry Can. Mfg. Co.), Clarke and Haig streets, South Melbourne, Vic., canister manufacturers.

"An improved rotary can seaming machine."

Classes 73.2; 73.6.

3468. 22 June. *Prov. only.*

J. Mitchell, 655 and 657 Elizabeth-street, North Melbourne, Vic., implement maker (*assignee of* H. Williams, *act. inv.*, Kent-street, Coburg, Vic.).

"Improvements in the shaking gear for the riddles of harvesters and the like."

Class 32.6.

3469. 22 June. *C.a.P.* 12 Apr., 1906. D. Edwards, 480 Elizabeth-street, Melbourne, Vic., engineer.

Disc plough adjustments, &c.

Classes 30.7; 60.9.

In a gang disc plough the width of the furrow is adjusted by sliding the brackets **A1** along the double beam **A**. The angle of the discs is controlled by a lever **B4** connected by rod **B3** and bar **B2** to arms **B1**, attached to vertical posts **B** standing up from the axle boxes **C**, which swing on pivots **C1**, Fig. 2.

The share **E1** cuts the furrow from the back disc to a level surface on which rolls the furrow wheel **E2**, steered by a lever **F1**.

The disc bearings in Fig. 2 have hollow gudgeons **d5**, with cotter **d**, radial lubricating holes **d6**, and a cap **d1**.

Fig. 1. 3469/05

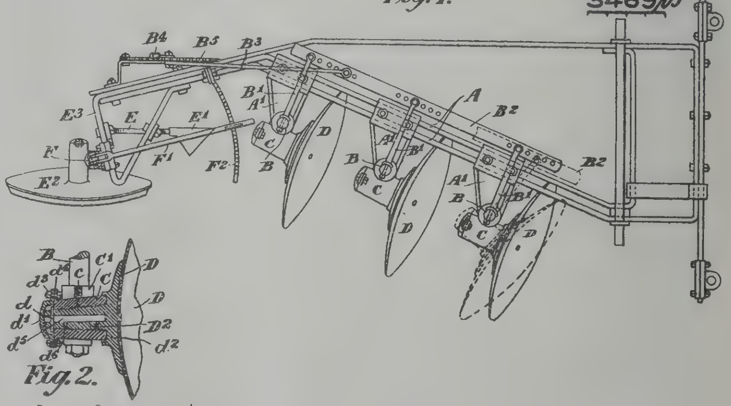


Fig. 2.

Prov. 3 *typed pages.*

Comp. 5 *typed pp.*, 7 *claims*; 1 *fol. drg.*, 4 *figs.*

3470. 22 June. G. H. Dunlop, 17 Dundas-place, South Melbourne, Vic., civil engineer.

Tub linings for tunnels, &c.

Class 85.1.

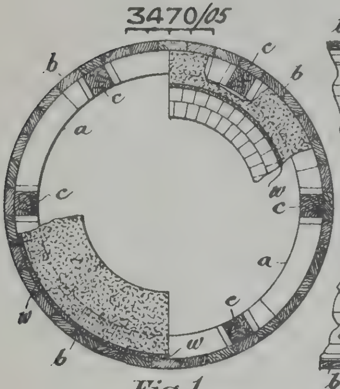


Fig. 1.

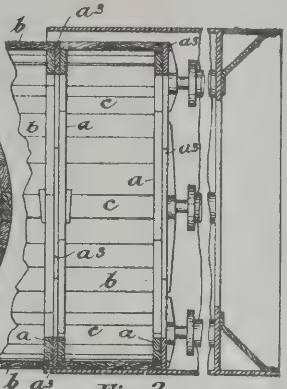


Fig. 2.

10 *typed pages,* 10 *claims ;* 1 *fol. drg.,* 13 *figs.*

The segmental frames **a** are connected by lagging **b,** and are built in the excavation behind the shield, as in Fig. 2, the last or key-section being inserted in detail, or, in small openings, may have parallel instead of radial joints ; the thrust of the shield-rams is taken by struts **c** (of timber or bricks) between the ribs **a**.

If the ribs are to be removed before the masonry or concrete is laid, the laggings may be rebated or chamfered ; if the ribs are built-in, they are spoked together ; the joints are packed with soft wood strips or with tarred felting.

Waterproof layers as **w**, Fig. 1, may be inserted.

3471. 22 June. *Prov. only.*

A. McKay, Manningham-street, Royal Park, North Melbourne, Vic., engineering student.

"An improved method of and means for sharpening mining tools, such as drills, gads, and the like."

Class 85.8.

3472. 22 June. *C.a.P.* 14 Dec.

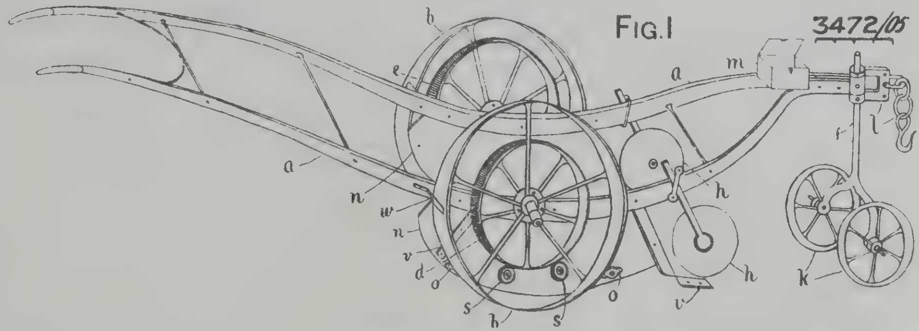
W. Nosworthy, Goldsmith-street, Goulburn, N.S.W., builder and contractor.

Assignment to W. F., S., E., and A. Withers registered Vol. 6, pg. 144.

Potato digger.

Class 32.7.

FIG. 1



A plough-like frame with two beams **a**, **a**, Fig. 1, united at the front over an adjustable pair of leading wheels, has a pair of driving wheels **b**, and spur wheels **d**, **e** which rotate beater shafts, Fig. 3, placed between the side plates **n**, **n**.

The ground is cut by disc coulters **h** ; the share **t**, Fig. 2, has a detachable point **u** ; scrapers **w** remove soil from the driving wheels.

FIG. 2

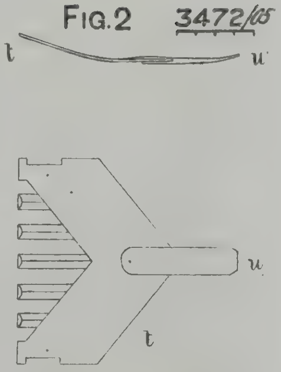
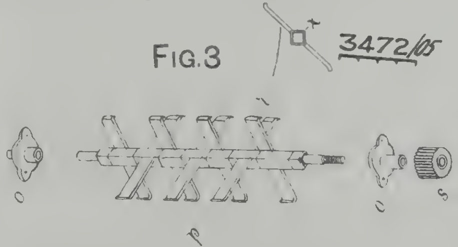


FIG. 3



Prov. 4 *MS. pages ;* 3 *fols. drgs.,* 4 *figs.*
Comp. 4 *MS. pages,* 4 *claims.*

3473. 22 June. W. D. Martin, Alma-street, Ashfield, N.S.W., engineer.

Tubulous boiler for baths and houses.

Classes 24.5 ; 81.6.

The outer shell **A** has a ring-joint at the base of the water chamber, to which the inlet pipe **C** is connected; the water rises between **A** and the inner corrugated cone **B**, flows down the pipe **D** and up the coil **F** to the exit **C**; the alternate rings of the coil are staggered to mix the hot gases more effectually.

The manner of use in a house circuit is indicated in Fig. 3, with connexions to a storage tank **H** and branch services **J**.

6 *typed pages*, 4 *claims;* 1 *fol. drg.*, 5 *figs.*

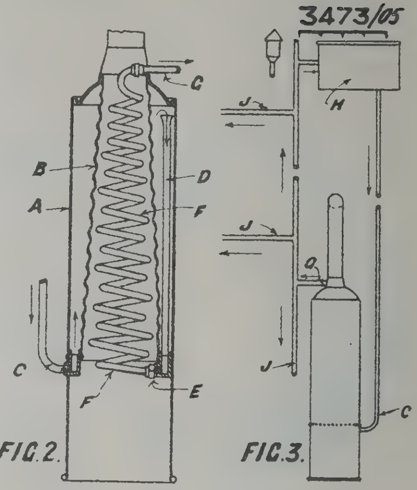


FIG. 2. FIG. 3.

3474. 23 June. *C.a.P.* 11 Sept.

F. W. Parker, 36 Adelaide-street, South Hobart, Tas., commission merchant.

Assignment to C. D. Hoggins and G. C. Gilmore registered Vol. 4, pg. 608.

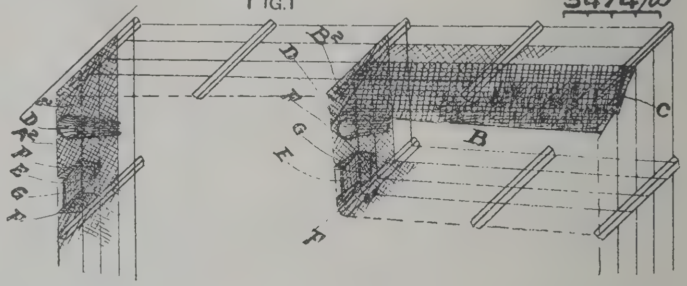
Enclosure and trap for rabbits.

Class 38.6.

A rabbit-proof enclosure is provided with funnel inlets **D** and valve entrances **E** with side guards **F**.

A similar inner enclosure **B** is provided with decoy partitions **C** containing green food, &c.; and a bag-net is provided for clearing the trap.

FIG. 1



Prov. 10 *MS. pages.*
Comp. 12 *MS. pages*, 3 *claims ;* 1 *fol. drg.*, 4 *figs.*

3475. 23 June. *Prov. only.*

T. F. Brown, *act. inv.*, 4 Linda-street, Coburg, Vic., manufacturer, and H. Clarke, *assignee*, 79–81 Franklin-street, Melbourne, Vic., merchant.

"A vessel of glass or other suitable material to be used as an ink bottle and whip-top."

Classes 49.1; 53.9.

3476. 23 June. *C.a.P.* 20 Oct.

E. E. James, *act. inv.*, and S. and H. E. Dunn, *assignees*, Carlisle-street, Balaclava, Vic., engineers.

Spring closed V-pulley.

Classes 60.2 ; 62.7 ; 95.9.

Motor cycles and cars driven by belts of wedge-section have a driving pulley whose effective diameter is reduced by lateral expansion, when the tension of the belt increases on steep gradients.

The side **B** of the pulley **C**, Fig. 1, is spring supported ; with easy driving the springs **J1** hold the sides together so that the belt cannot sink in the groove, but rides on the full diameter ; greater tension forces the sides apart and the belt descends to a part of smaller diameter, the slack being taken up by a jockey pulley.

Prov. 2 *MS pages.*
Comp. 10 *typed pp.*, 3 *claims ;* 1 *fol. drg.*, 8 *figs.*

(*For drawing see next page.*)

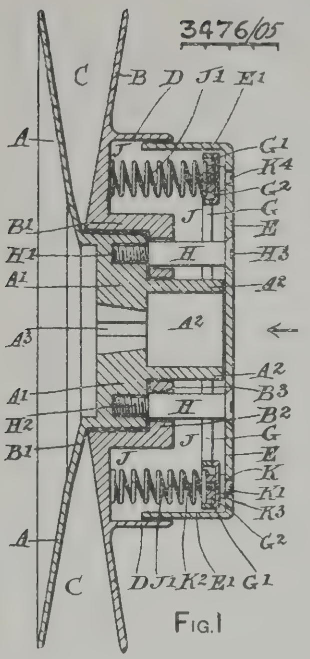


Fig. 1

3477. 23 June. *C.a.P.* 22 Mar., 1906.

A. P. and L. J. Rath (Rath Bros.), 398 King-street, Newtown, N.S.W., coachbuilders.

Bait distributing cart, &c.

Class 38.9.

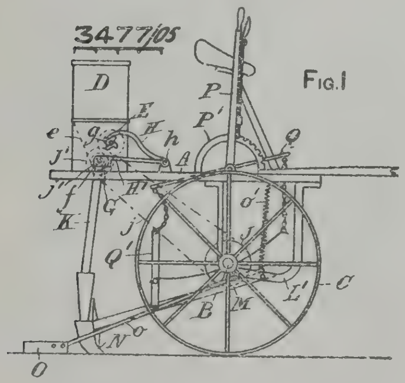


Fig. 1

The apparatus, Fig. 1, combines a cart with a tubular coulter **N** and scraper **O**, which may be lifted by gear **P Q**, of usual construction.

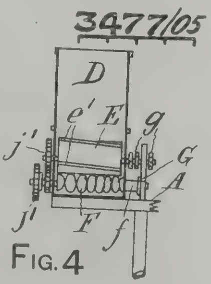


Fig. 4

The pollard hopper **D**, Fig. 4, has a pair of grooved or toothed rollers **E** which force the dough on a conical feed worm **F** of diminishing pitch, extruding it through the nozzle **f**; an external cam-wheel **g** lifts the lever **H** and knife **G** which cut off pellets into the tube **K**.

Prov. 3 *typed pages.*
Comp. 6 *typed pages*, 4 *claims*; 1 *fol. drg.*, 5 *figs.*

3478. 23 June. *C.a.P.* 20 Mar., 1906. *Lapsed.*

A. Jones, Bondoola, Rockhampton, Qld., engineer and farmer.

"Combined corn thrasher, maize husker, sheller cleaner and bagger."

Classes 32.6; 34.1.

3479. 23 June. *C.a.P.* 20 Mar., 1906. *Lapsed.*

A Jones, Bondoola, Rockhampton, Qld., engineer and farmer.

"A combined cultivator, seed drill and land leveller with attachment for a roller."

Classes 31.1; 31.2.

3480. 24 June. *Prov. only.*

G. W. Westropp, Ashburton, Canterbury, N.Z., saddler.

"An improved hook specially adapted for hames and such like."

Class 39.6.

3481. 24 June. *Prov. only.*

R. Chambers, New Plymouth, N.Z., commission agent.

"Means for automatically controlling the supply of milk to pasteurisers or separators."

Class 36.3.

3482. 24 June. *Prov. only.*

E. McNair, Auckland, N.Z., settler.

"A device for holding infants' feeding bottles."

Class 87.3.

3483. 26 June. *Prov. only.*

J. Edwards, 21 Frederick-street, Launceston, Tas., joiner.

"An adjustable miter box, with which is combined a compass, bevel, square, and rule."

Class 80.7.

3484. 26 June. *Prov. only.*
W. A. WILKINSON, Wagin, W.A., commission agent.

"Combined stump jump mouldboard and disc plough."

Class 30.9.

3485. 26 June. *Prov. only.*
W. J. NOTT, Blanchetown, S.A., engineer.

"An automatic pump for pneumatic tyres."

Class 97.85.

3486. 26 June. *Prov. only.*

A. G. FRENCH, Williamson-avenue, Grey Lynn, N.Z., chemist.

"An improvement in obtaining ammonium chloride from coal and other mineral and organic substances containing nitrogen."

Classes 09.3; 21.1.

3487. 26 June. POWER & MINING MACH. Co., 52 William-street, New York, U.S.A. (*assignees of* H. C. HOLTHOFF, *act. inv.*, Milwaukee Club, Milwaukee, Wis., U.S.A., mechanical engineer).

Annular roasting furnace, &c.

Classes 15.2; 16.30; 16.47; 16.5; 16.7; 17.3.

The annular roasting chamber has a fixed roof **r** and a revolving hearth **i** surrounding the upper part of the central gas producing chamber **u**; a fixed annular cooling hearth **m** is situate below the rotating hearth and surrounds the lower portion of the combustion chamber.

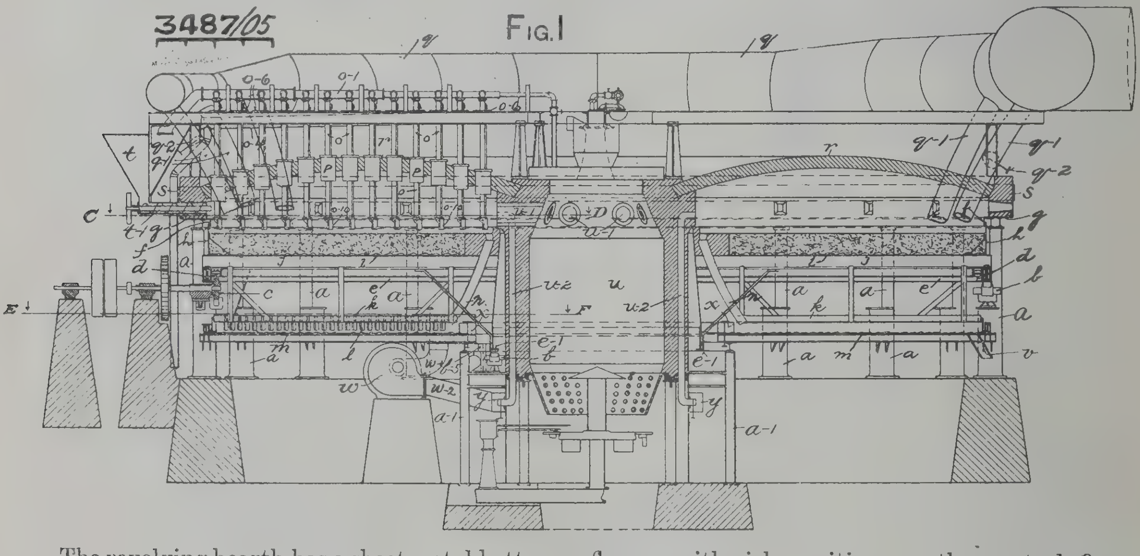
The revolving hearth has a sheet metal bottom covered with sand, &c., resting on radial beams **j** and outer and inner circular tracks **e**, **e1**, running on rollers at their inner and outer ends; the rollers are conical, and are mounted in pairs in oil boxes **b**, forming balancing frames to equalize the weight; horizontal guide rollers are also used. The hearth is driven by a pinion **c** with renewable teeth, gearing with radial roller teeth **d** on the track **e**.

The cooling floor is formed of sheet metal on radial beams resting on columns **a** and **a1**; a row of fixed rabble blades **o10** are supported by U-pipes **o** depending from the roof **r**; each U-pipe passes through a sleeve **o6** in which it may be rotated, to adjust the angle of the blade, and the consequent rate at which the ore travels through the furnace.

A fuel fire is started in the chamber **u** and supplied with air or steam blast to generate fuel gas, which passes by the upper openings **u1** to the roasting chamber, from which the gases are drawn off by pipes **q1** leading to a flue **q**; with rich pyritic ores the central fire may be discontinued after the primary heating.

The ore is fed continuously from the hopper **t** by the screw **t1**, and falls on the rotating hearth; the rabbles **o10** drag the ore inward and discharge it through pipes **n** on to the cooling hearth; below the rotating hearth are hanging rabbles **1** which gradually plough the ore on the cooling hearth outward until it falls out by the shoots **v**.

3487/05 FIG. I



The cooling hearth is ventilated by a suction fan **w**, which draws air from a trunk **x** at the inner margin, and passes it through tubes **u2** in the furnace walls to exits adjoining the gas outlets **u1** to supply the flame in the roasting chamber.

17 *typed pages,* 22 *claims;* 5 *fols. drgs.;* 14 *figs.*

3488. 26 June. *Prov. only.*

H. K. Walker, 88 William-street, Melbourne, Vic., mechanical engineer.

"Improvements in carbon blocks or briquettes."

Class 20.4.

3489. 26 June. *Prov. only.*

E. H. C. Brown, 20 Milverton-street, Moonee Ponds, Vic., traveller.

"An improved hanger, applicable for the simultaneous support of trousers, coat, and hat."

Class 43.1.

3490. 26 June. *Prov. only.*

A. H. Simpson, Totara Valley, Canterbury, N.Z., farmer.

"Improvements relating to brooch fastenings."

Class 43.9.

3491. 26 June. International Bolt Co. Ltd., Montreal, Canada (*assignees of* T. P. Shelly, *act. inv.*).

Bolt heading process.

Classes 71.2; 71.3.

A rod **H** is fed by rollers **I** between gripping jaws **E**; a lateral motion shears off the length, and the closed jaws hold the blank while it is partially compressed by the die **F**, forming an up-set enlargement; after this stage the bolt moves axially, forcing back the spring supported block **J** against the fixed abutment **K**; the final compression of the die **F** then squeezes the remainder of the projecting blank into the mould in the jaws **E** forming the complete head and neck of desired shape.

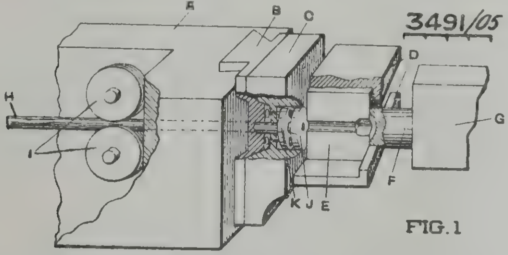


FIG. 1

The springs between the block **J** and the abutment **K** must be properly adjusted to the necessary resistance.

10 *typed pages,* 10 *claims;* 1 *fol. drg.,* 3 *figs.*

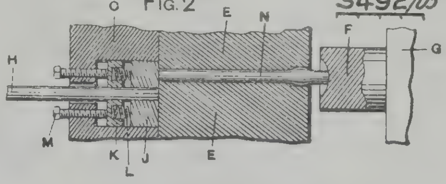
3492. 26 June. International Bolt Co. Ltd., Montreal, Canada (*assignees of* T. P. Shelly, *act. inv.*).

Bolt heading by cold swaging.

Classes 71.2; 71.3.

A rod **H** is fed by rollers between gripping jaws **E**, **E**; a lateral motion shears off the length, and the closed jaws hold the blank while it is partially compressed by the die **F** forming an up-set enlargement as in Fig. 2; after this stage the bolt moves axially, forcing back the spring supported block **J** against the fixed abutment **K**; the final compression of the cup-die **F** then squeezes the remainder of the projecting blank into the mould in the jaws **E** forming the complete head and neck of desired shape.

FIG. 2



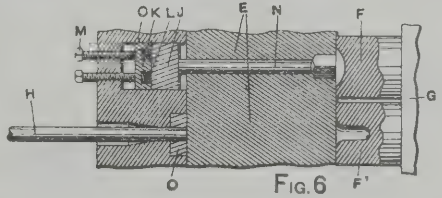


FIG. 6

In the modification, Fig 6, the shearing is done by a separate cutting ring **O**; and during the first compression to the stage as Fig. 2, the end of the blank is held in the deep die **F1**, and the formation of the head is completed by the cup-die **F** after a further lateral motion of the die-block **G**.

The resistance of the springs **L** is sufficient to prevent any yield during the first compression as in Fig. 2; on the slight slacking of the jaws **E** the springs are compressed, and the bolt moves for the final compression of the neck.

11 *typed pages,* 13 *claims;* 2 *fols. drgs.,* 6 *figs.*

3493. 26 June. J. E. BISHOP, Narbethong, Killarney-street, Mosman, N.S.W., secretary.

Application under Sec. 7.

N.S.W. ... 12,091 ... 27 May, 1902

Hydraulic tyre compressor.

Classes 71.3; 93.4.

In modification of N.S.W. 5605/95, the arrangement of a fixed ring of pistons on which radiating cylinders slide is reversed, the cylinders **C1** are attached to the ring frame **A** and the radially sliding pistons carry curved blocks which abut directly on the tyre, or on intermediate pieces.

The pistons are guided by studs **G** which slide in radial grooves **J** in the bed plate; to insure simultaneous motion, the pistons are each connected by a pair of links **R** (attached to arms **L** below the bed) to balance levers **Q** which are pressed outwardly by springs **M**.

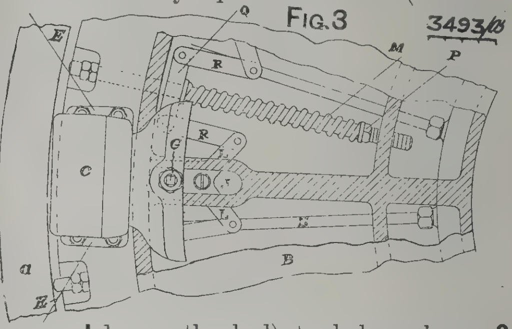


FIG.3

3493/05

7 typed pages, 6 claims; 1 fol. drg., 3 figs.

3494. 27 June. D. F. SHERMAN, New Castle, Placer, Cal., U.S.A., fruit preserver.

Concentrated fruit pulp, &c.

Classes 10.7; 11.3; 17.5; 28.5; 34.7.

The fruit or vegetables are washed, crushed, and the fine fibres and juices separated from the skins by sieving, then partially evaporated in vacuo at about 160° F.; when the evaporated product is sufficiently dry to be coherent it is further dried by air blast on trays in a steam-heated room, the trays being dusted with corn starch. Berries may be treated without pulping.

The product is packed in boxes, and will replace fresh fruit in preserving, confectionery, &c.

3494/05

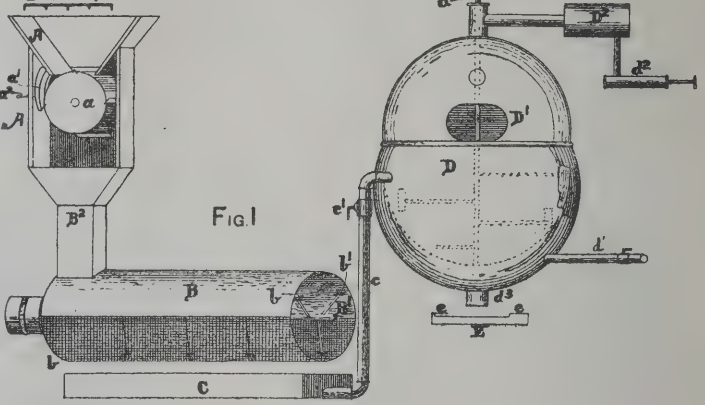


FIG.1

In Fig. 1, **A** is a slicing or shredding mill, **B** a pulper with internal rotary brushes to facilitate the passage of the fine solids of the pulp, and **D** a vacuum pan.

16 typed pages, 8 claims; 1 fol. drgs., 3 figs.

3495. 27 June. W. R. S. JONES, Whitehall-court, Whitehall, London, Eng., civil engineer.

Car coupling; triangular shackle, &c.

Class 96.3.

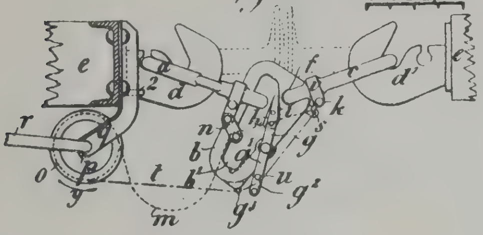
In a three-link coupling using the long and short sides of a central triangular link for slack and tight coupling, the free link **c** is confined to the short end of the central link **b**, by a solid eye **f**, and the link **a** alone is allowed to take alternative positions in **b**.

The link **c** is hooked on the opposing vehicle in the slack position, and by lifting the inner ends of **a** and **c** simultaneously, the link **b** falls by gravity into the tight position; the pawl **i** is loaded at **h** so that it falls over and prevents the accidental return of **b** to the slack position when jolted.

The central link may be operated also by chains **m** and **t**, which are wound in opposite directions on a drum **o** which has winch handles at each side of the car.

Alternatively, the inner ends of links **a** and **c** may be connected by a short slack chain by which they may be lifted from the side by a shunter's pole.

Fig. 5.



14 *typed pages,* 10 *claims;* 3 *fols. drgs.,* 13 *figs.*

3496. 27 June. N. Balint, Hungarian Railway Carriage Works, Györ, Hungary, engineer.

Jointless groups of boiler tubes.

Class 63.4.

The tubes are joined by headers as in a grating, and may be constructed by rolling, pressing, casting, drilling, or otherwise to form one flat integral piece. Each flat section has suitable end connexions to form an element of a tubulous boiler, in which weight and liability to unequal expansion are reduced.

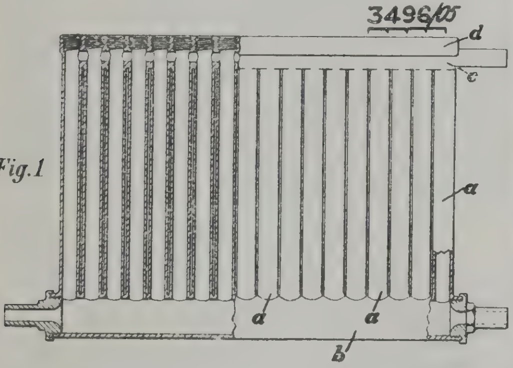


Fig.1

5 *MS. pages,* 2 *claims;* 1 *fol. drg.,* 3 *figs.*

3497. 27 June. S. Wohle, 22 Great Russell-street, London, Eng., chemist.

Detergent for wool scouring.

Class 25.1.

A mucilaginous liquid, an extract containing saponin, a vegetable acid and a peroxide are compounded; the mixture may contain :—

Linseed Water	boiled to mucilage	2½ lbs. 5 gallons
Horsechestnuts	... ...	2½ lbs.
Water ...	... ...	5 gallons
Castor oil	... ...	½ lb.
Acetic acid	... ...	1 oz.
Sodium peroxide ...	...	¼ oz.

or other equivalent substances.

2 *letterpress pages,* 2 *claims. No drawing.*

3498. 27 June. D. Halpin, 17 Victoria-street, Westminster, London, Eng., consulting engineer.

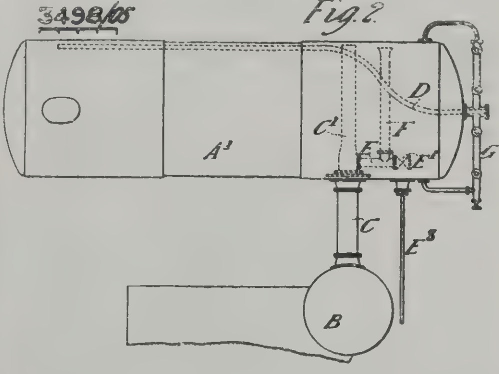
Thermal storage for steam boilers.

Class 63.6.

The heat-storage systems described in G.B. 20,203/*91*, 363/*92*, and 14,823/*01* are developed.

Two reservoirs such as **A1** (constructed as in G.B. 14,823/*01*) are placed above the steam drum of a boiler, each having a free steam communication **C1** to its upper part, a separate feed supply **D**, and a separate discharge pipe **E1** (with regulating valve **E3**) connecting the lower part with the steam generator.

Fig.2



The reservoirs act as heat accumulators, and are alternately charged with hot water during periods of underloading, and when heated to the temperature of the boiler are discharged into the boiler at periods of excessive demand for steam.

Several modifications of the connexions between the reservoirs and the boilers are described.

11 *typed pages,* 5 *claims;* 6 *fols. drgs.,* 12 *figs.*

3499. 27 June. G. S. Travers-Harris, 25 Earl's Court-square, Kensington, Middlesex, Eng., engineer.

Batting shield.

Class 53.2.

A metal clip **a** grips the upper part of the blade of a cricket bat, Fig. 4, and carries a pair of spring uprights **b**, which support a padded shield **c** to protect the batsman's hands.

The pad may be stuffed with fibrous padding or a pneumatic bag.

An alternative attachment is shown.

5 typed pages, 4 claims; 2 fols. drgs., 7 figs.

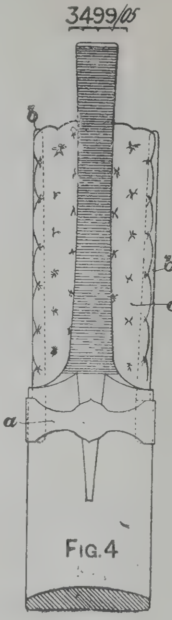


Fig. 4

3500. 27 June. J. Chisholm, Kalgoorlie, W.A., metallurgist.

Sludge doors, &c., filter presses.

Class 28.2.

To facilitate the discharge of residues from filter presses (particularly the "Dehne" type), the bottom of each section is fitted with a narrow drop-door **b**, which is fitted with an easily operated latch **c1** having a handle **c7** with a jamming cam **c3**.

When the doors are dropped the sluicing pipe **d** is raised by the rack-pinion **d5**, and the nozzles **d1** are raised to the position in Fig. 2; after turning on the washing liquor, the pipe **d** is rotated by the hand wheel **e3**, causing the jets to sweep vertically to the dotted position; after the sludge is removed, the jets are lowered and the doors **d** are lifted and rapidly locked.

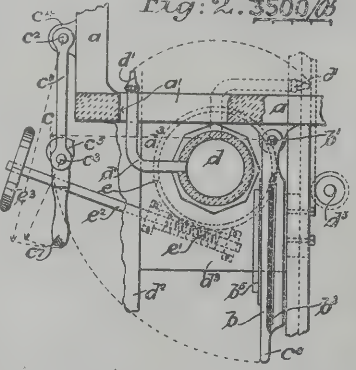


Fig: 2. 3500/05

5 printed pages, 5 claims; 1 fol. drg., 6 figs.

3501. 27 June. *Prov. only.*

G. McMullen, Barrack-street, Perth, W.A., architect.

"Release book leaf formation."

Class 01.8.

3502. 27 June. *Comp. lapsed.*

G. C. O'Beirne, Bulimba Brewery, Brisbane, Qld., brewer.

Application under Sec. 7.

Qld. ... 7172 ... 20 Mar., 1903

"Improvements in filling and closing machines, corking or otherwise, for liquids bottled under pressure."

Classes 27.5; 57.5.

3503. 27 June. *Comp. lapsed.*

S. A. Coleman, Lauff-street, Rockdale, Sydney, N.S.W., carpenter.

"The fishing line dresser and dryer."

Class 38.5.

3504. 27 June. *C.a.P.* 22 Mar., 1906. *Abandoned.*

Ella C., Emily M., and Alice G. Hayman, Walker-street, Dandenong, Vic.

"An improved solution for the cure of citrus scale, rose aphis and the like."

Classes 31.5; 38.9.

3505. 27 June. *Prov. only.*

Helen M. Perkins, Robert-street, 34 Spring Hill, Brisbane, Qld., married woman, and James Blackwood, 67 Melbourne-street, South Brisbane, Qld., laundryman.

"Perkins blackwood syphon."

Class 22.4.

3506. 28 June. *C.a.P.* 25 Sept.

J. McNally, Emu-street, Longreach, Qld.

Notched dropper with tie wire.

Class 81.8.

Droppers **A** (of S- or C-section) have a deep cut **B** at one side, shallower notches **D** at the edges, and a hole at the other edge, through which the tie wire **E** is looped after

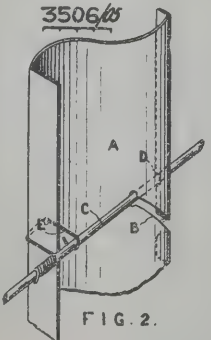


FIG. 2.

the dropper has been placed on the wire and brought into position by a partial rotation.

Prov. 2 *typed pages.*
Comp. 3 *typed pages,* 2 *claims;* 1 *fol. drg.,* 3 *figs.*

3507. 28 June. *Prov. only.*

W. J. Spruson, 169 King-street, Sydney, N.S.W., patent attorney.

"Improvements relating to the conveyance of power to machine sheep shears."

Class 37.6.

3508. 28 June. Standard Paint Co., manufacturers, *assignees of* H. Abraham, *act. inv.,* both of Bound Brook, Somerset, New Jersey, U.S.A.

Cementing paint for roofing, &c.

Classes 79.3; 81.1.

To produce a flexible weather-proof paint having an expansion rate and other properties similar to the bituminous flexible roofing materials to be jointed, a plastic binder is incorporated with colours which are relatively inert, but which dominate the colour of the binder; the composition must also be adhesive or tacky on first drying, and must not be liable to separate into variable parts when kept in closed cans.

As an example, for a red paint the following composition may be used:—30 parts by weight of stearine pitch of the proper consistency are dissolved in 40 parts by weight of spirits of turpentine in a steam jacketed digester, at a temperature of about 125° C.; when dissolved, the liquid is allowed to cool, and 30 parts by weight of a 98 % floated red iron oxide stirred in until the mixture becomes homogenous.

8 *typed pages,* 5 *claims. No drawing.*

3509. 28 June. *C.a.P.* 3 Oct.

A. Houseman, carpenter, and L. Weichert, engineer, Charlestown, Newcastle, N.S.W.

Stopper and detents for non-refillable bottles.

Class 57.6.

The bottles are made with a rebate or groove **16** around the interior of the neck; the cork **19** is placed well below this, and a stopper, with spring detents, is placed above it so that the head of the bottle **14** must be broken off before the cork can be extracted.

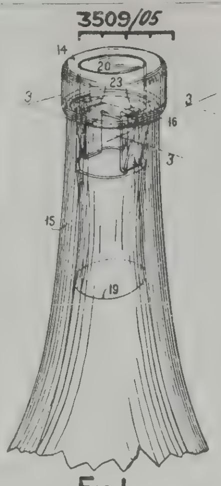


Fig. I

Four designs for detents are illustrated, comprising a folded flat spring, as Fig. 1, and also circular or spiral springs, and transverse bolts with springs.

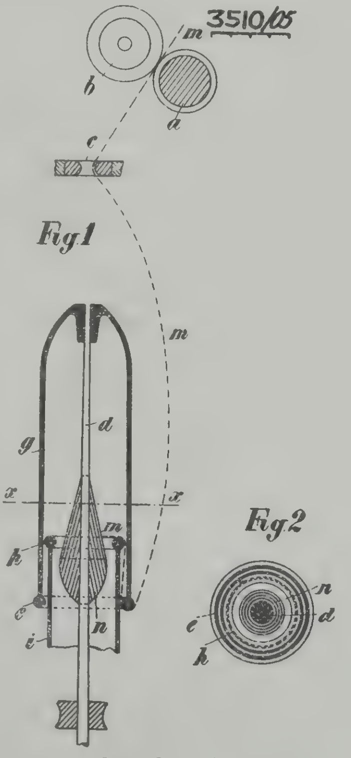
Prov. 2 *typed pages.*

Comp. 7 *typed pages,* 8 *claims;* 1 *fol. drg.,* 12 *figs.*

3510. 28 June. F. H. Snow, National Mutual Buildings, King William-street, Adelaide, S.A., patent attorney (*agent of* La Societe dite Peignages et Filatures de Bourre de Soie, *assignees of* H. Doll, *act. inv.,* engineer, both of 5 Rue Richepanse, France, spinners).

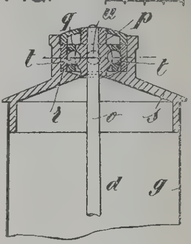
Spinning and winding.

Classes 40.7; 60.4; 60.5.



The roving or thread **m** from the delivery rollers **a**, **b** is passed through a guide eye **c**, and under the lower edge **e** of a bell **g** rotating with the spindle, it is then led over a non-rotating ring **h** which reciprocates vertically to guide the thread on to the cap **n**.

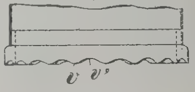
FIG. 4 3510/05



To reduce vibration, the bell **g** may have the "Cardan" joint, Fig. 4, being a Hooke's joint suspension formed of two pairs of balls **t**, **u** of unequal diameter, with an intermediate gimbal ring **q**.

In order to increase the frictional resistance, the lower edge of the ring **e** is corrugated in Fig. 6.

FIG. 6



7 *typed pages*, 3 *claims*; 2 *fols. drgs.*, 6 *figs.*

3511. 28 June. *Prov. only.*

J. T. Linke, Miller-street, North Unley, S.A., bootmaker.

"Improvements in the manufacture of boots and shoes."

Class 44.1.

3512. 28 June. *Prov. only.*

G. G. Turri, 150 Queen-street, Melbourne, Vic., patent attorney (*nominee of* A. O. Ross, engineer, M. Sugrue, engine-driver, and A. J. Straker, miner, Croydon, Qld.).

"Improvements in centrifugal concentrating apparatus."

Class 12.3.

3513. 28 June. *Prov. only.*

W. Stephens, Grant and Sturt streets, South Melbourne, Vic., ironfounder.

"An improved holder for doors and the like."

Class 78.8.

3514. 29 June. *Comp. lapsed.*

G. G. Turri, 150 Queen-street, Melbourne, Vic., patent attorney (*agent of* C. P. F. Cumming, *act. inv.*, Stonehenge, Derrinallum, *viâ* Camperdown, Vic., grazier).

"Improvements in the fastening of wires to fence droppers, and the like."

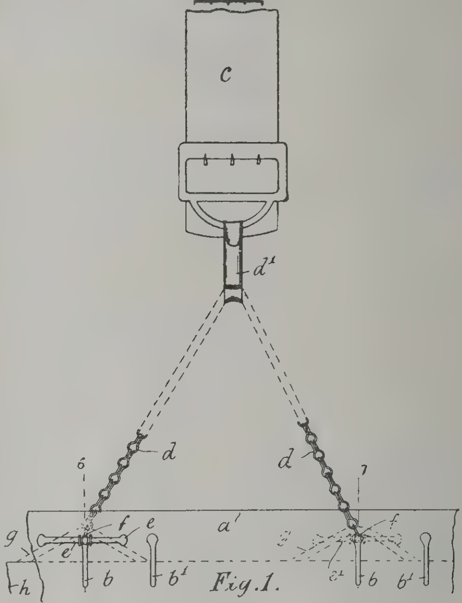
Class 81.8.

3515. 29 June. H. T. Shortell, Orbost, Vic., carpenter.

Trousers suspenders, &c.
Classes 43.3; 43.9.

Brace buttons for trousers are omitted, and replaced by vertical button-holes **b**, **b1**, in which hooked cross-bars **e** are placed, and may also be hitched in the loops **g** on the underpants; the cross-bars are fixed to the braces by chains or cords **d** in any convenient manner.

3515/05



4 *typed pages*, 4 *claims*; 1 *fol. drg.*, 5 *figs.*

3516. 30 June. *Prov. only.*

J. F. McNeill, Spencer and Bourke streets, Melbourne, Vic., gentleman, and W. L. Clark, Louden-place, off Post Office-place, Melbourne, Vic., mechanical engineer.

"Improvements in or connected with motor cycles and similar vehicles for the minimising of vibration and for other purposes."

Classes 94.9; 96.5.

3517. 30 June. *Prov. only.*

I. F. Witting, 399 King-street, West Melbourne, Vic., dairy expert.

"Preparation for removing objectionable smell and flavour in cream and butter, also for preserving butter without employing poisonous preservatives, and its use."

Classes 36.3; 87.1.

3518. 30 June. *Prov. only.*

E. Mesh, 36 Wright-street, Clifton Hill, Vic., poultry dealer.

"Self filling drinking fountain for poultry."

Class 38.1.

3519. 30 June. *Prov. only.*

A. M. Langton, 97 Somerville-road, Yarraville, Vic., telegraph lineman.

"Improvements in or connected with detachable bearings for railway or mining trolleys or the like."

Classes 60.8; 96.4.

3520. 30 June. *Prov. only.*

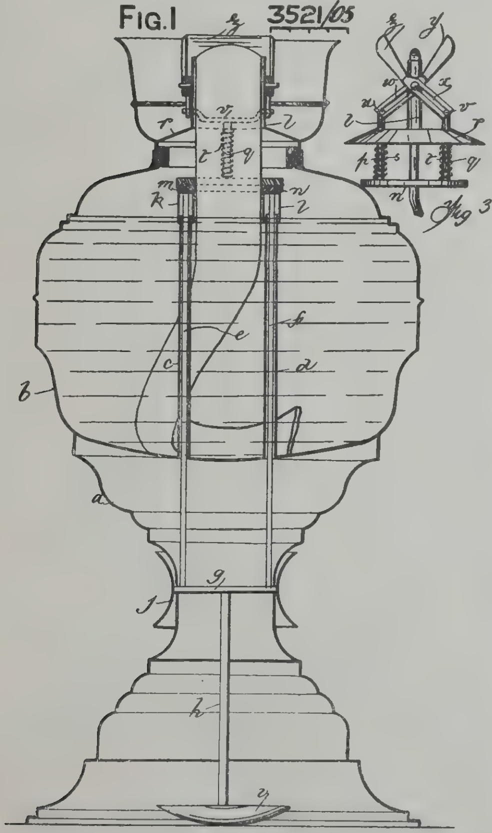
C. J. O'Connor, Breakwater, Geelong, Vic., engine-driver.

"Improvements in sheep shearing machines."

Class 37.6.

3521. 30 June. T. S. Tarling, *act. inv.*, 17 Tess-road, Fleetville, stationer's warehouseman, C. H. Pearce, *assignee*, Market-place, poulterer, and E. W. Townson, *assignee*, Ellerdale, Sandfield-road, printer, all of St. Albans, Hertfordshire, Eng.

Fig.I



Safety oil-lamps.

Class 22.2.

On one or both sides of the wick or wicks, hinged or sliding extinguishers **y**, **z**, are fitted, which are connected by rods **f**, **h**, to a weight **i** below the base of the lamp, so that, when the lamp is upset or lifted in an improper manner, the descent of the weight will extinguish the flame. The rods **f** are carried through tubes **d** which stand above the oil level.

To carry the lamp it is lifted by the ferrule **j**, which is connected to the weight by the cross head **g**, thus preventing the descent of **i**.

Duplex lamps have somewhat varied connexions; also, the ferrule **j** may be replaced by a spring detent which locks the rod **h** when the lamp is gripped over the detent.

8 *typed pages*, 7 *claims*; 2 *fols. drgs.*, 10 *figs.*

3522. 30 June. A. Nathan, 53 Park-road, Middle Park, Vic., warehouseman (*assignee of* A. Linard, *act. inv.*, "Claughton," Alison-road, Elsternwick, Vic., mechanist).

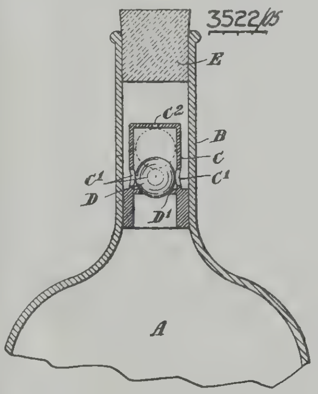


Fig.1.

Non-refillable bottle.

Class 57.6.

After filling the bottle, a stopper **D1**, with a ball-valve **D** and cage **C**, is inserted in the neck below the cork; the cage **C** has orifices **C1** in its sides which allow of the escape of the liquid when the bottle is tilted, and an upper orifice **C2** to vent the cage.

3 *typed pages*, 1 *claim*; 1 *fol. drg.*, 1 *fig.*

3523. 30 June. *Comp. lapsed.*

F. Mallinson, architect, and A. A. Russell, artist, Forth-street, Woollahra, N.S.W.

"The patent imperial roller sash lifts."

Class 78.7.

3524. 30 June. *Prov. only.*

W. Knight, Phœnix Works, Wellington-road, Launceston, Tas., millwright and engineer.

"An improved bell ore crusher."

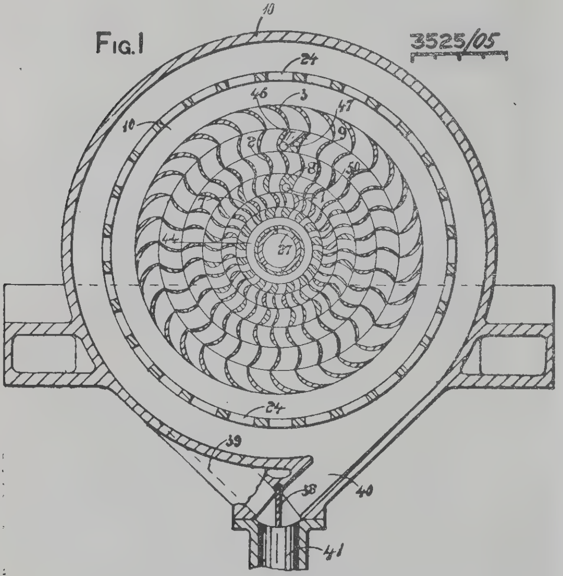
Class 10.4.

3525. 30 June. T Falvey, 22 Clyde-quay, Wellington, N.Z., engineer.

Radial flow steam turbine.
Class 67.1.

The alternate rings of moving vanes **1**, **2**, **3** and fixed guide blades **7**, **8**, **9** are divided into three parts by partitions **14** to **17**, each in one plane but divided into annular portions at each fixed and moving annulus; one of the three divisions has vanes for reverse driving, and the other two have vanes for the same direction so that one set may be shut off at half power.

Fig. I

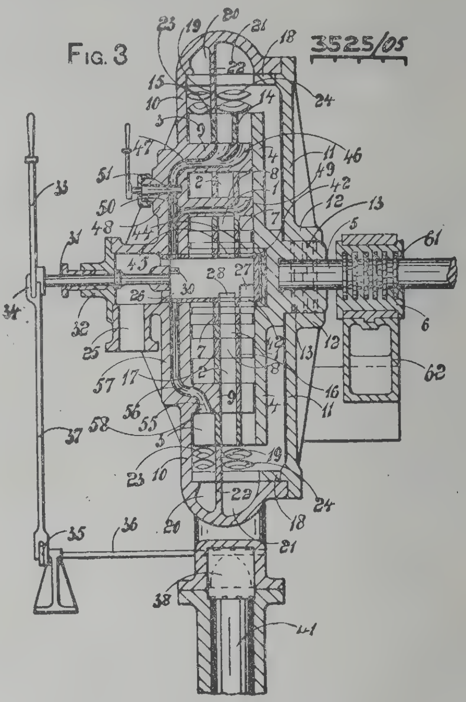


Between certain guide blades the spaces are occupied by passages leading from the steam inlet **25** through the central sleeve valve **26** directly to the outer rings to give greater torque on starting; a tap **51** allows the steam to be passed direct to both outer rings, or to the port **49** only.

The exhausts **20**, **21** are divided by a partition **22** and the central sleeve valve is coupled by the link **37** to the clack **38** for reversing the exhaust passage.

10 *typed pages*, 7 *claims*; 2 *fols. drgs.*, 8 *figs.*

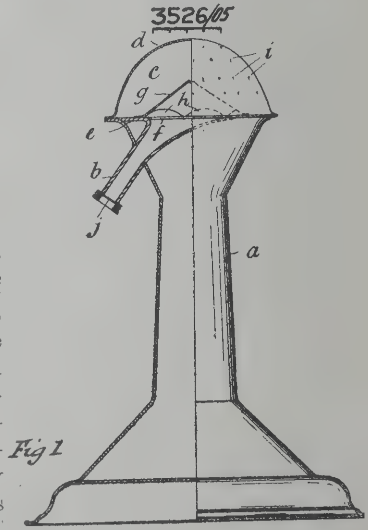
Fig. 3



3526. 30 June. H. Turner, *act. inv.*, Koolunga, S.A., machinist, and C. T. Henderson, *assignee*, Enfield, S.A., commercial traveller.

Lawn sprayers.
Classes 31.9; 74.9.

A rose **d** for use on any pillar stand **a**, has an inclined entrance pipe **b**; the rose domes are removable (by screwed rims) for changing the style of perforations for picturesque effects, and an inner distributing baffle-cone **g** equalizes the flow from all parts of the rose; a strainer **j** may be added.



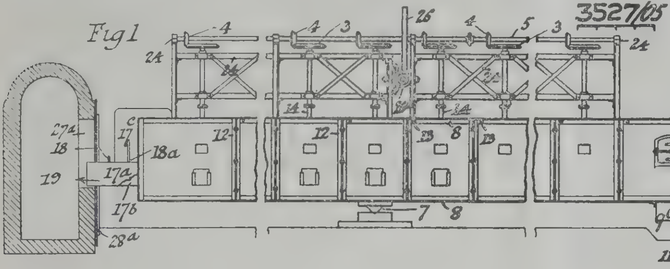
5 *typed pages*, 4 *claims*; 1 *fol. drg.*, 3 *figs.*

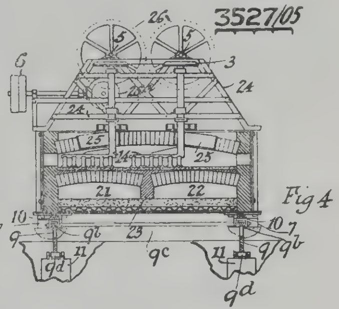
3527. 30 June. T. Edwards, Ballarat, Vic., metallurgist.

Tilting roaster furnace.

Classes 16.40 ; 17.3.

The capacity of the "Edwards tilting furnace" is increased by the use of two or more lines of rotating rabbles, Fig. 4, which can operate a greater width of hearth than is practicable with a single row of rotating arms of convenient length and weight; also the length of the arms may be economically reduced.





The furnace, Fig. 1, has a girder frame, carrying the rabble gearing above it; it is supported on a medial pivot **7** (or equivalent bearers) and the heavy end is supported and adjusted in slope by the screw-jacks **9** or otherwise; the exit end connects to the main flue **19** by branches passing through sliding plates as the inclination is varied; the ore is fed at the flue end and is traversed by the rabbles in the usual manner to the exits near the fire-box.

Under the roasting hearth are regenerative flues **21, 22,** Fig. 4, that may be cut out by dampers **18, 18a** when not required, as during the cooling of the hearth; above the hearth are roof apertures **25** (with doors) for the removal and renewal of the rabble arms.

8 typed pages, 5 claims ; 2 fols. drgs., 6 figs.

3528. 1 July. *Prov. only.*

E. J. Hellier, "St. Clair," Hope-street, North Brighton, Vic., sheepfarmer.

"A useful household and general egg carrier and vibrative supporter."

Class 57.9.

3529. 1 July. *Prov. only.*

E. J. Hellier, "St. Clair," Hope-street, North Brighton, Vic., sheepfarmer.

"A combination mouse rat and rabbit trap."

Class 38.7.

3530. 1 July. *Prov. only.*

A. H. Farmer, Devonport, Auckland, N.Z., engineer.

"Improvements in or relating to steam valves."

Classes 61.7 ; 63.7.

3531. 1 July. *Prov. only.*

W. E. Johnstone, *act. inv.*, Warrnambool, Vic., labourer, and G. Lance, *assignee*, Fairy-street, Warrnambool, Vic., plumber.

"An improved gag for horses and like animals."

Class 37.1.

3532. 1 July. *Prov. only.*

F. A. Alcock, 212 Russell-street, Melbourne, Vic., manufacturer.

"An improved cushion for billiard tables."

Class 53.6.

3533. 3 July. *Comp. lapsed.*

G. Mackay, Yarragundry Station, Wagga Wagga, N.S.W., miner.

"Ventilating perforations in the uppers of boots, shoes, and slippers."

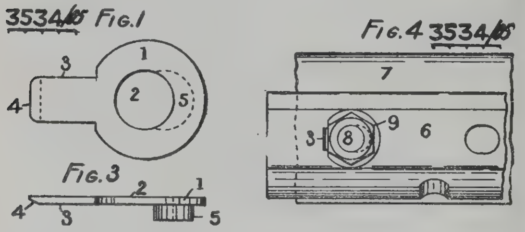
Class 44.1.

3534. 3 July. J. Raven, 148 Clarence-street, Sydney, N.S.W., merchant (*assignee of* J. J. Hourigan, *act. inv.*, Princes-street, Brighton-le-Sands, N.S.W., engineer).

Lock washer.

Classes 78.4; 98.1.

The washer **1** has a projection or lug **5** which engages a hole in the object to be secured, and also a tongue **3** which is bent up against a face of the nut when the nut is screwed home.



In Fig. 1 the projection **5** is made of a lunette shape to fit into the vacant space in a railway fishplate; for wood work, a spiked projection is illustrated.

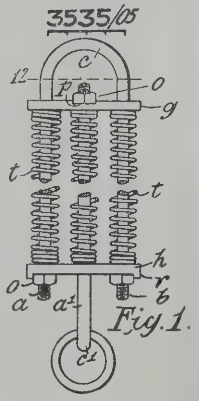
4 typed pages, 3 claims; 1 fol. drg., 9 figs.

3535. 3 July. *C.a.P.* 27 Mar., 1906.

P. J. Capner, Dookie College, Dookie, Vic., blacksmith.

Traction springs.

Classes 39.6; 58.7.



One or more U-bolts **c**, **c1** with screwed limbs are mounted through plates **g**, **h**, their planes being crossed if more than one are used; a plurality of spiral springs **t** are threaded on the bolts; the plates **g** and **h** may be recessed or flanged to prevent the nuts slipping, and the screwed connexions are convenient for changing the springs or adjusting the initial compression.

With one or two U-bolts a central straight bolt having a hook or ring may be combined.

Prov. *3 typed pages.*

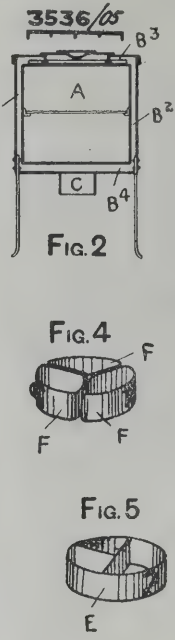
Comp. 6 typed pages, 6 claims; 1 fol. drg., 11 figs.

3536. 3 July. *C.a.P.* 20 Oct.

Caroline Pollitt, Grange, S.A., married woman.

Kitchener for primus lamps, &c.

Classes 24.2; 24.7.



A rectangular oven has a jacket-flue or double case around two sides **B1**, **B2**, top **B3**, and bottom **B4**; the lamp is placed in an opening **C** having a depending collar; the top **B3** has an opening for divided or segmental saucepans; the oven has the usual front door, and the top of the upper jacket is loose for cleaning the flue.

Prov. *2 typed pages.*

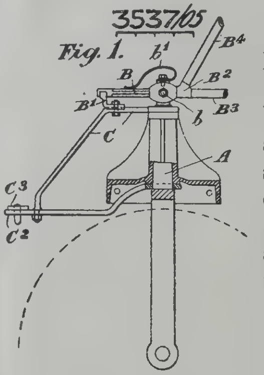
Comp. *3 typed pages, 3 claims; 1 fol. drg., 5 figs.*

3537. 3 July. *C.a.P.* 3 Apr., 1906.

H. V. McKay, 668 Bourke-street, Melbourne, Vic., manufacturer.

Strippers; steering gear, &c.

Class 32.3.

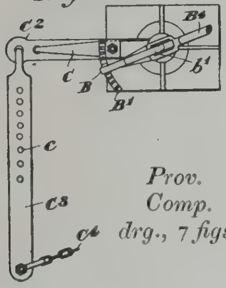


The post **A** of the front steering wheel fork carries a looped steering lever **B** pivoted by the bolt **b**, the forward end **B** of the lever engages a horizontal curved rack **B1** attached to the top bar of draught frame **c**, and is held in gear by a spring **b1**; the rear end of lever **B** is forked at **B2**, the lower part being a foot lever **B3** and the upper part a hand lever **B4**.

In the modification, Fig. 6, the hand lever **B** is forked and separately hinged to the pivot bolt **b**; the arm **B** may have either one or two ribs or teeth engaging the rack. The spreader bar **C3** is hooked to the eye **C2** at one end, and the drag chain **C4** from machine frame is attached at the other end; a series of holes **c** permit the spread to be adjusted.

3537/05

Fig. 2.



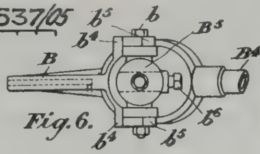


Fig. 6.

Prov. 3 *typed pages.*
Comp. 4 *typed pages,* 4 *cls.;* 1 *fol. drg.,* 7 *figs.*

3538. 3 July. *Prov. only.*

J. T. Rhind, "Pine Lodge," Temora, N.S.W., farmer.

"An improved scrubbing appliance."

Classes 25.5; 25.8.

3539. 3 July. *Prov. only.*

D. Charleston, 226 Elizabeth-street, Melbourne, Vic., bicycle manufacturer.

"An improved compound for instantaneously sealing punctures in pneumatic tyres and the like."

Class 97.87.

3540. 3 July. *Prov. only.*

W. W. Daniels, Wallsend, N.S.W., builder.

"Improvements in fumigators or machines for supplying fumes to rabbit burrows and the like."

Class 38.9.

3541. 3 July. *Comp. lapsed.*

J. W. Summers and J. Evans, Chiltern, Vic., assayers, &c.

"Barium peroxide bromide-cyanide process for extracting gold and silver from pyrites, ores and concentrates."

Class 14.4.

3542. 4 July. *Prov. only.*

H. Nelson, 3 Lewis-street, North Brighton, Vic., violin maker.

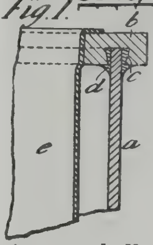
"Improvements in the manufacture of picture cord, whip cord, and the like."

Class 58.1.

3543. 4 July. H. J. Worssam (G. J. Worssam and Son), mechanical engineer, Wenlock-road, City-road, London, Eng.

3543/05

Fig. 1.



Steam heater for wort, &c.

Classes 24.5; 27.1.

The steam drum **a**, Fig. 1, is constructed with two (or more) end plates **b** having annular grooves **c** on their inner faces in which a continuous shell or wall **a** is secured by running in molten metal **d**.

3543/05

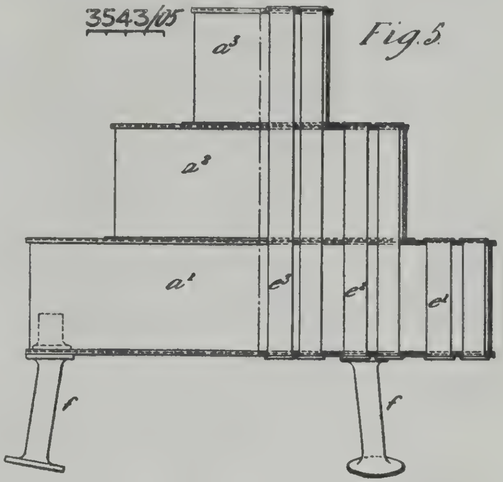
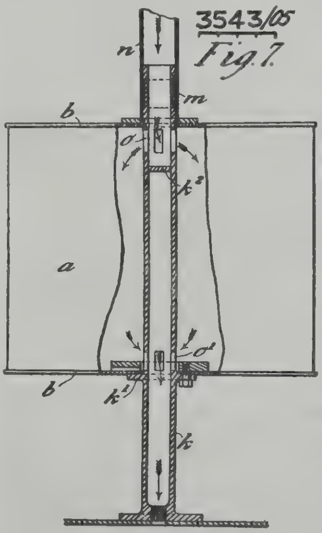


Fig. 5.

A number of vertical circulating tubes are expanded and beaded to the end plates, which may be arranged in steps as in Fig. 5, or be of equal diameter; the water of condensation collects in a pocket below the lower plate and may be blown out by a dip pipe leading to a steam trap.

3543/05

Fig. 7.



The drum may be raised above the bottom of the vat by legs, or may be permanently fixed, as in Fig. 7, on a hollow pillar **k** containing the steam inlets and exits.

5 *typed pages,* 4 *claims;* 3 *fols. drgs.,* 7 *figs.*

3544. 4 July. J. W. Esser, *act inv.*, 40 Park Ridings, Hornsey, engineer, G. W. Barratt, *assignee*, Ashford, Priory-road, Hornsey, gentleman, and F. Barratt, *assignee*, Wood Green Villas, Mayes-road, Wood Green, gentleman, all of Middlesex, Eng.

Cam-operated magazine rifle.

Classes 53.1; 55.7; 62.1; 89.3.

The gun is operated by means of cams actuated by a coiled spring **b**, Fig. 1, which is wound intermittently by an external handle; the main wheel **f** drives a regulating train, **g** to **m**, and also pinions **x**, **y**, **z**, on the axle of which are cams **v**, **4**, **5**, and **6**, having special functions.

The longitudinally sliding breech-block **p** is pushed forward by the action of the cam **v** on its depending bracket **q**; the internal spring striker being cocked by the engagement of a projection on its front with the pivoted trigger **7**, which is afterwards lifted by the cam **4** to release the striker.

The breech-block **p** is retracted by the spring **u**, the cartridge-case being extracted by hooks on the breech-block and ejected by the lever **10**, which is actuated by a projection **27** under the breech-block.

The cartridges are pressed up by the platform of the magazine against the cover **20**, which swings over on a longitudinal axis (to cause a cartridge to fall in front of the advancing breech-block), when a vertically-sliding retaining plate **13** is withdrawn.

The plate **13** and the cover **20** are actuated by means of the cams **5**, **6**, respectively, acting on the rods **14**, **21**; the gun is set in action by pulling down the thumb-piece of a vertically-sliding rod, which is normally pulled up by a spring so that the upper end of the rod prevents the breech-block from moving forward.

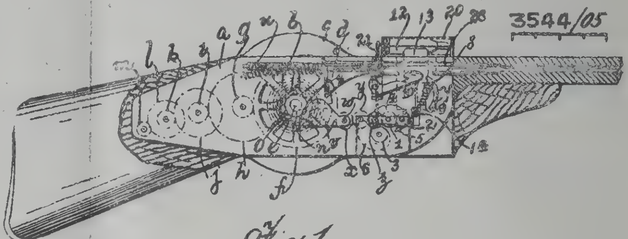


Fig.1

The coiled spring may be omitted, and gun may be hand-operated at each discharge by the winding crank on the spindle **e** of the wheel **f**; and may also be combined with coin-freed mechanism.

7 typed pages, 5 claims; 4 fols. drgs., 20 figs.

3545. 4 July. *Prov. only.*

T. J. Ryan, 335 Latrobe-street, Melbourne, Vic., manufacturer.

"An improved ball joint for gas fittings and the like."

Classes 22.5; 74.5.

3546. 4 July. C. E. L. Brown, Baden, Switz., engineer.

Propulsion of ships.

Classes 67.1; 92.2.

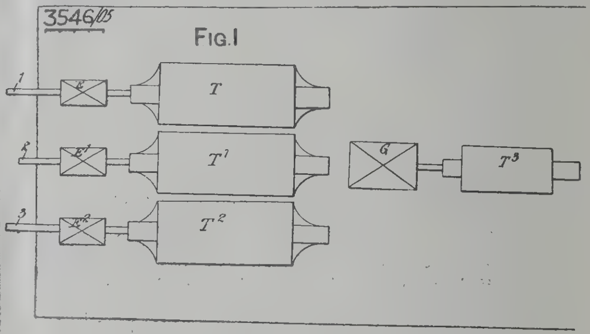
In the diagram **T**, **T1**, **T2** are turbines of graded capacities, and **E**, **E1**, **E2** are electromotors that may use current from generators such as **G** driven by independent turbines such as **T3**.

At low speeds the turbine **T3** on full load may transmit power to all three motors **E** to **E2**, the exhaust from **T3** being run through **T** to **T2**.

At mean speeds one or more of the turbines **T** to **T2** may also be supplied with steam in series or parallel without the electric power.

At forced speed, the direct steam power and the electric transmission may both be used.

In each combination the turbines in use are operating at or near full load under the most economical conditions.



7 typed pages, 5 claims; 1 fol. drg., 1 fig.

3547. 4 July. *Prov. only.*

A. J. Cuming, 769 Sydney-road, Brunswick, Vic., engineer.

"Improvements in and relating to power hoists."

Class 59.1.

3548. 4 July. *Prov. only.*

J. WEARNE, "The Cedars," Bonnyrigg, *viâ* Liverpool, N.S.W., draftsman.

> "Ferro-concrete or cement mortar covering for piles, squared timber, telegraph poles, and the like."

Class 81.2.

3549. 4 July. *Prov. only.*

W. B. GOVETT (Walter Lupton and Co.), 134 Albert-street, Brisbane, Qld., stove manufacturer.

> "Improvement in the method of arranging a direct draft for double ovens, ranges and stoves."

Class 24.2.

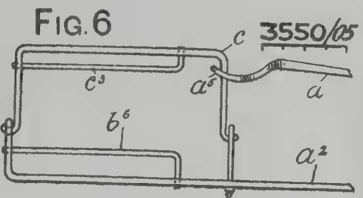
3550. 4 July. *C.a.P.* 7 Oct.

R. J. FRY, Kialla, Vic., labourer.

Protected jaw trap.

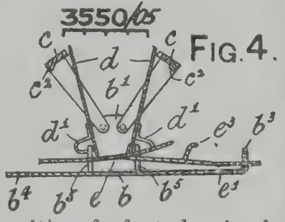
Class 38.7.

FIG. 6 3550/05



To prevent sheep and cattle being maimed in rabbit traps, &c., a pair of plates **d**, Fig. 4, are attached by loose eyes **d1** on wire pivots **b6**, Fig. 6; the hinge centres **b6** are both lower and wider apart than the pivots of the jaws **c**, and the plates are made just so long that their upper edges project beyond the teeth on **c** during their lifting as in Fig. 4; if a hoofed animal springs the trap the foot slips along the plates **d** clear of the teeth, but with soft footed animals the plates **d** close more than in Fig. 4 and the tops slip below the teeth, which close on the foot; stops **c2** or **c3** below the teeth prevent the plates **d** falling out of position.

3550/05 FIG. 4.



Prov. 2 *typed pages.*
Comp. 7 *typed pp.*, 7 *clms.*; 1 *fol. drg.*, 6 *figs.*

3551. 5 July. W. J. SPRUSON, 169 King-street, Sydney, N.S.W., patent attorney (*communicatee of* R. BRAUN, *act. inv.*, Westinghouse Works, Trafford Park, Manchester, Eng., electrical engineer).

Assignment to THE BRITISH WESTINGHOUSE ELECTRIC and MANUFACTURING COMPANY LIMITED, registered 20th Feb., 1906.

Magnetic brake shoes.

Classes 02.1; 96.6.

To increase the magnetic flux in railway brake magnets, the reluctance is reduced by dividing the shoe-poles longitudinally with respect to the rail-head or wheel-tyre; thus the length of the magnetic circuit may be reduced and its section between the sliding contacts greatly increased.

3551/05

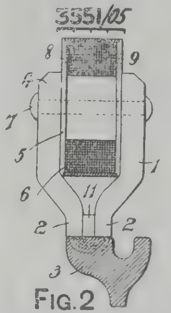


FIG. 2

3551/05

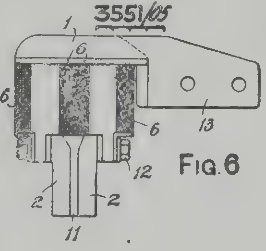


FIG. 6

In Fig. 2, the rubbing poles **2**, **2**, are brought close together over the rail-head, and are separated by a non-magnetic packing **11**; in Fig. 6 the coils are divided and the rubbing poles are attached to the ends of a U-core.

4 *printed pages,* 2 *clms;* 3 *fols. drgs.*, 6 *figs.*

3552. 5 July. *Prov. only.*

E. H. PEACOCK, 558–560–562 Collins-street, Melbourne, Vic., printer.

> "An improved envelope specially for the postage of printed matter."

Class 49.3.

3553. 5 July. Hon. C. A. PARSONS, Heaton Works, Newcastle-on-Tyne, Eng., engineer, and J. TURNBULL, Turbinia Works, Wallsend-on-Tyne, Eng., draughtsman.

3553/05

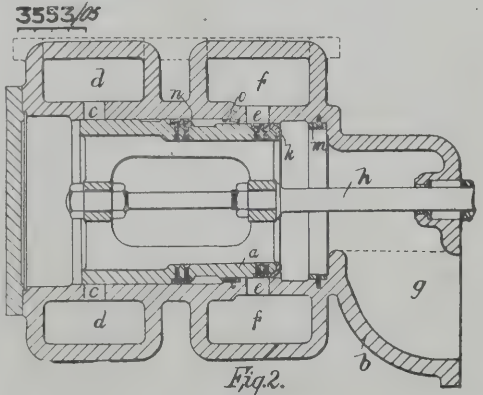


Fig. 2.

Assignment to Charles Algernon Parsons, registered 31st May, 1906.

Seat rims for turbine valves.

Classes 67.2; 74.7.

Hollow piston valves **a**, for distributing steam (from boilers through pipe **g**) to the passage **d** for the forward turbines, or to the passage **f** for the reversing turbines, are fitted with steam-tight rings **n**, **k**, which sit on similar rings **o**, **m**, at each side of the reversing passage **f**, when the valve is moved to the extreme right for forward motion; thus preventing loss of steam by leakage into the reverse turbine.

If the periods of operation for the reverse turbine are of sufficient duration to make it desirable to prevent leakage, additional rings may be fitted for the position of the piston at the extreme left of the figure.

5 typed pages, 2 claims; 2 fols. drgs., 2 figs.

3554. 5 July. Hon. C. A. Parsons, Heaton Works, Newcastle-on-Tyne, Eng., engineer, and J. Turnbull, Turbinia Works, Wallsend-on-Tyne, Eng., draughtsman.

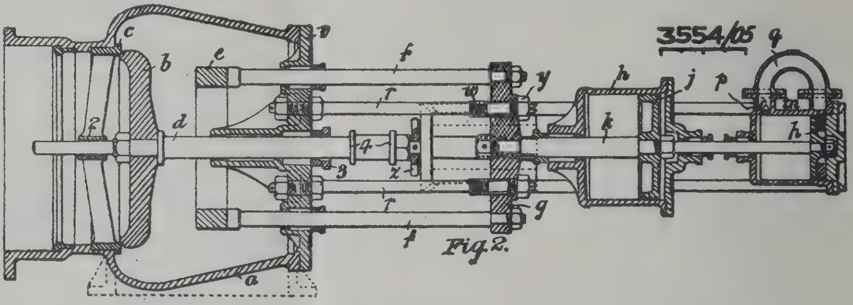
Assignment to Charles Algernon Parsons, registered 31st May, 1906.

Handling large turbine valves, &c.

Classes 61.7; 65.6; 67.2; 74.7.

The large non-return valve **b** is held against its seat **c** by an external spring and lever bearing against the collars **4**; the valve may be opened or closed rapidly by the motor **h** with the oil brake **m**, having a piston **n** which obstructs its port **o** near the closing of the large valve.

If the valve **b** is required to be closed for a considerable time, the rods **f f** may be moved to force the ring **e** against the valve, by screwing the nuts **y** along the guide rods **r**, **r**.



3554/05

Fig. 2.

6 typed pages, 4 claims; 3 fols. drgs., 4 figs.

3555. 5 July. E. A. Wood, 100 Aston-road, Birmingham, Eng., manufacturer.

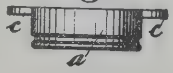
Adapting holder for inverted gas mantles.

Class 23.5.

The annular holder **a** has the usual groove for the attachment of the mantle net, internal lugs **b** for engagement with burners having external ears, and also external lugs **c** for burners with bayonet joints that surround the holder; the external lugs are of plain section and the internal lugs may be recessed on their under sides, to suit the respective patterns of burners.

3555/05

Fig. 1



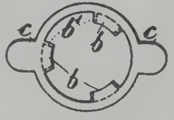


Fig. 3

5 typed pages, 3 claims; 2 fols. drgs., 11 figs.

3556. 5 July. *C.a.P.* 20 Sept.

J. P. Stuart, Steamship Buildings, 55 Currie-street, Adelaide, S.A., engineer.

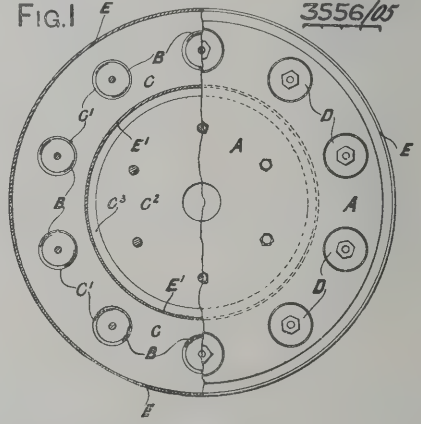
Elastic wheel.

Class 97.6.

The wheel, Fig. 1, has a wooden centre disc **C2**, inside an outer ring block **C**, with an annular space **C3** to allow play; these parts are held together by a pair of circular steel plates **A** which are bolted to **C2** and allow **C** to move radially; a circle of matching holes **C1** passes

FIG. 1

3556/05



through both **A** and **C**, in which are band, clock, or other springs **B**, that overhang or protrude beyond the plates **A**; the protruding ends are covered by metal caps **D**.

In a modification for spoked wheels, a single spring is placed in a space surrounding the hub.

Prov. 2 *typed pages.*
Comp. 5 *typed pages,* 7 *claims;* 1 *fol. drg.,* 3 *figs.*

3557. 5 July. *C.a.P.* 13 Feb., 1906.

S. J. Emery, *act. inv.*, traveller, and Nereida E. Kelton, *assignee,* waitress, Peel-street, Windsor, Vic.

Adjustable horse-collar.

Class 39.6.

To enable collars for large horses to be used on smaller animals, a wither pad **f** is supported and adjusted by the straps **g**, **h**, **h1**; the hames are hinged or otherwise flexibly connected at the top, and are open at the bottom at **j**, the width being adjusted by a crank bolt with right and left hand screws, through the swivelled nuts **k**, **l**, that are pivoted on the lower ends of the hames.

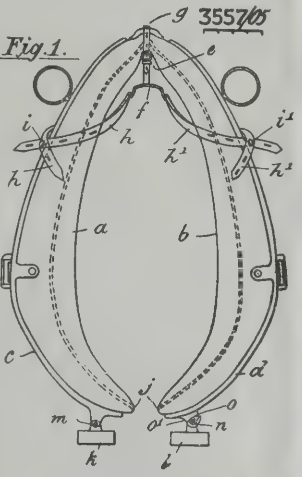


Fig.1. 3557/05

Prov. 3 *typed pages.*
Comp. 4 *typed pages,* 6 *claims;* 1 *fol. drg.,* 3 *figs.*

3558. 5 July. *Prov. only.*

W. Morrison, 63 Primrose-street, Moonee Ponds, Vic., bootmaker.

"Improvement in toe plates for boots and shoes."

Class 44.3.

3559. 5 July. J. F. Chalk, Mackay, Qld., stock inspector.

Lacing eyelets.

Classes 44.1; 78.1.

To facilitate the tightening of boots, &c., by pulling at the laces, the eyelets have their loops **a** parallel to the joint to be closed; the eyelets are punched from sheet metal in zigzag forked strips **b** with denticulate ends; the middle of the strip forms the loop **a**, and the ends **d** are forced through the leather and clinched to take the pull, while other shorter projections **c** are clinched near the eye to retain it in close contact; several variations in the foldings are illustrated.

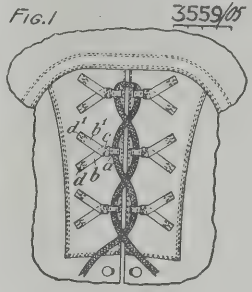


Fig.1 3559/05

4 *typed pages,* 2 *claims;* 1 *fol. drg.,* 10 *figs.*

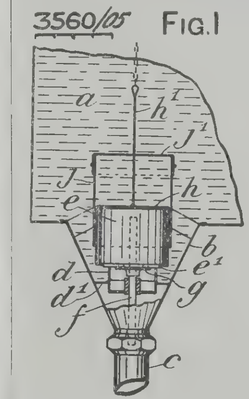
3560. 5 July. P. Murphy, 24 Gipps-street, Balmain, N.S.W., plumber.

Flushing valve; suction lift, &c.

Class 86.2.

A limited flush is obtained from a large tank by a pneumatic device which closes the valve after a period determined by a clepsydra.

The valve aperture **d** is preferably situated in the throat of a funnel **b** below the tank; the aperture is closed by a leather disc **e1** on the lower end of a hollow cylinder or float **e**, which has a central tubular stem **f** reaching down the waste pipe **c**, and has an open upper end near the top of the float **e**, there are also a few weep-holes **g** which drain the float when it rests on the seat, in which position the water pressure overcomes its flotation when empty.


3560/05 Fig.1

Outside the float is an easily fitting bell **h** that may be lifted by the chain **h1**, and an external fixed guide cylinder **j** stayed to the funnel at its base; on lifting the bell **h** the float follows by suction and the discharge valve opens, the induction of air through **f** by the rush of water down **c** gradually fills the float with water through the holes **g**; when full the float sinks and stops the flush, and the float then drains itself by the holes **g**.

The volume of the flush is determined by the relative magnitudes of the size of the openings **d** and **g**, the head of water in the tank, and the capacity of the clepsydra **e** in relation to the filling holes **g**.

5 *typed pages,* 1 *claim* 1 *fol. drg.,* 4 *figs.*

3561. 6 July. *Prov. only.*

K. C. Gillette, 1045 Old South Building, Boston, Suffolk, Mass., U.S.A., manufacturer.

"Improvements in bottle seals."

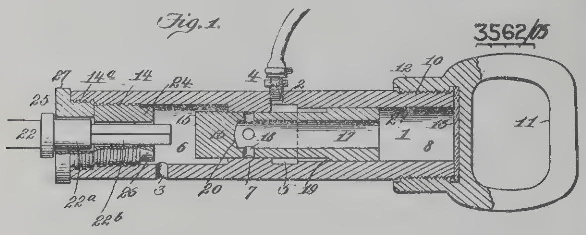
Class 57.5.

3562. 6 July. C. T. Carnahan, 815 Harrison-avenue, mining engineer (*assignee of* J. Murphy, *act. inv.*, Resurrection Mine, master mechanic, both of Leadville, Lake, Col., U.S.A.).

Valveless pneumatic hammer.
Classes 72.1; 85.2.

The free hammer piston **16** has integral ports which obviate the use of a separate valve; in Fig. 1 the return stroke is performed under the pressure on the trunk annulus **19**, the exhaust being cushioned in the cavity **17**; when the ports **18** come opposite the annular clearance **5**, a full charge at high pressure fills the chambers **8** and **17**, and is immediately cut off by the return stroke; it exhausts into the chamber **6** (with the discharge hole **3**) when the hammer hits the tool **22b**.

Fig. 1. 3562/05



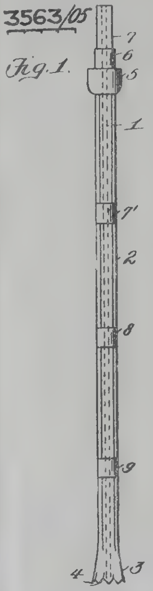
The cylinder is bored from the solid of various diameters, and the handle **11** and tool holders **25** are all attached by screw connexions of simple character.

The tool-holder is a double bush **24** and **25**, the parts having reversed threads for locking; the end **26** is reduced to allow room for burring without jamming the bush; the neck of the drill **22** is also formed with an external shoulder, a round neck **22a**, and a square shank **22b**. Alternative tool bushes have the part **27** replaced by a cap screwed outside the cylinder.

21 *typed pages,* 19 *claims;* 2 *fols. drgs.,* 5 *figs.*

3563. 6 July. C. T. Carnahan, 815 Harrison-avenue, mining engineer (*assignee of* J. Murphy, *act. inv.*, Resurrection Mine, master mechanic, both of Leadville, Lake, Col., U.S.A.).

3563/05 Fig. 1.



Dust catcher for hollow drills.
Classes 85.8; 85.9.

The drill, Fig. 1, is a solid steel bar of high grade unsuitable for hollow rolling, and has a hole drilled throughout; the point is flared to a star-pattern, and the shank has a shoulder-collar **5**, and parts **6**, **7** to fit the holder of a percussion drill; the shaft is polygonal in section and has cylindrical necks **7**¹, **8**, **9** formed at intervals on which a spring forceps or clamp may be placed to support the dust catcher.

The dust catcher is a perforated sponge or other pad **14** attached by a flexible flange **18** to a ferrule **15** that slides over the drill, and may be supported at any of the necks as the drill works into the rock; the pad may be removed and washed at intervals.

Fig. 3. 3563/05

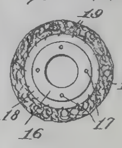
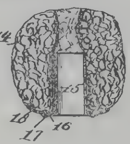


Fig. 4



12 *typed pages,* 13 *claims;* 2 *fols. drgs.,* 8 *figs.*

3564. 6 July. *Prov. only.*
P. A. Morris, 86 Elizabeth-street, Melbourne, Vic., optician.

"An improved multiple cylinder revolving engine."

Class 64.8.

3565. 6 July. B. Ycre, 937 Eighth-avenue, New York, U.S.A., master baker.

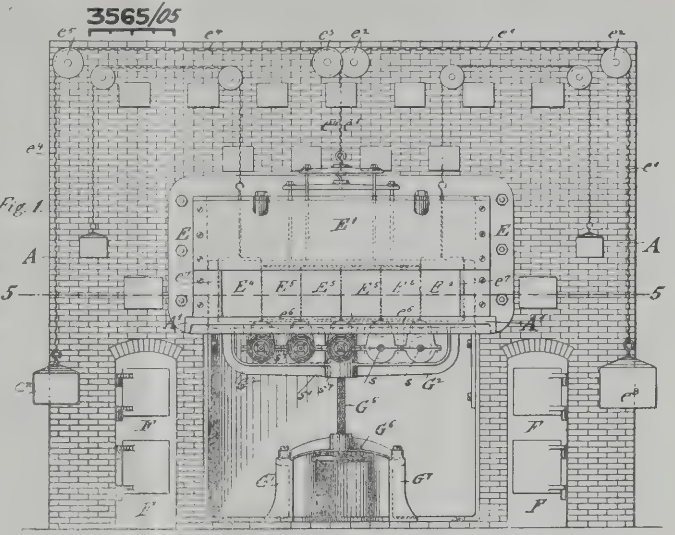
Sectional baker's oven.
Class 24.2.

To increase the capacity, the oven is divided transversely by an interior gate into a front charging chamber, and a rear baking chamber; the doors are also divided for partial opening in longitudinal strips; and each strip accommodates two wheeled racks of several superimposed baking trays.

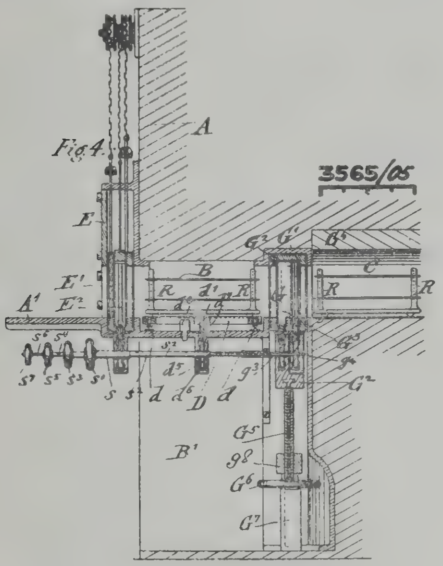
The main outer gate **E1** is the full width and slides in the frame **E** by chain **e1** and weight **e3**; behind **E1** is a second rectangular frame, on the grooved lower bar of which are six smaller gates, the end ones **E4** having separate balance chains

e8, while the four gates **E5** which give access to any longitudinal section of the oven may be moved laterally by racks and telescopic pinion shafts **s**.

The interior gates are of similar compound construction (**G1** to **G7** Fig. 4) to the outer gates, but the main frame moves downward by the screw **G5** instead of being balanced by chains; the end blocks **G3** slide in a front groove in the frame, and the central blocks in a back groove, so that any longitudinal section may be opened.

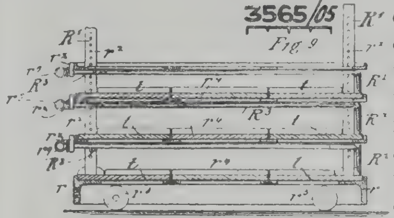


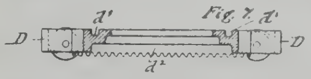
The front or charging chamber is the length of one baking rack, but the baking chamber holds two racks in each longitudinal section; on the floor of the charging chamber are transverse rails **d**, Fig. 4, on which run carriages **D**, Fig. 7, that may be traversed by the racks **d2** and pinion **d5** to bring the longitudinal wheel grooves **d1** in line with corresponding grooves along each section of the baking chamber.



The baking racks **R**, Fig. 9, have a wheeled base **r**, with four posts **R1** to hold the superimposed shelf trays **r4** at convenient vertical distances; the trays have open bottoms with cross bars that support baking tiles with rebated edges and outer rims; each tile has recesses to hold metal dies for printing marks on the loaves, &c. Under each tray is a sliding rake or peel **R3**, for the convenient unloading of the tray as each rack is brought to the front.

In working the oven, a vacant space is left in one row so that racks may be brought from the back, emptied, recharged and replaced in the oven in rotation, enabling two workmen to operate at the front with increased output.





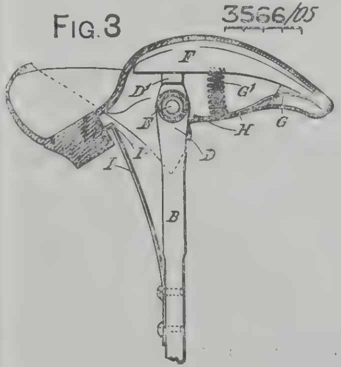
22 typed pages, 21 claims; 6 fols. drgs., 16 figs.

3566. 6 July. *C.a.P.* 21 Nov.

J. Bell, 165b High-street, Prahran, Vic., bootmaker.

Repairing jack for pump shoes.
Class 44.5.

FIG. 3



A rod **B** about two feet high stands in a cast iron foot at any desired height; an iron last **F** is hinged at **E**, and has a spring **G** which takes in the slack of the upper, and holds the sole against the last; another flat spring **I** on the rod **B** engages the heel of boot and holds it down as shown.

A ball and socket clamp may be used at **E**.

Prov. 2 *MS. pages.*
Comp. 5 *typed pages,* 5 *cls.*; 2 *fols. drgs.,* 4 *figs.*

3567. 6 July. *Prov. only.*

J. H. Hart, Springfield, Blackall, Qld., grazier, and E. A. McLean, Westland Station, Longreach, Qld., sheep overseer.

"The lightning folding dropper."

Class 81.8.

3568. 6 July. *Prov. only.*

T. W. Sloane, School-lane, East Bundaberg, Qld., cab proprietor.

"The household advertising medium and broom protector."

Classes 25.8; 54.1.

3569. 6 July. *Prov. lapsed. C.a.P.* 4 Aug., *lapsed.*

J. O'Dowd, Tapanui, Otago, N.Z., boarding-house keeper.

"An improvement relating to roof gutters."

Class 81.4.

3570. 6 July. *Prov. only.*

C. J. Royds, Invercargill, N.Z., flaxmiller.

"An improvement relating to hand saws."

Class 80.3.

3571. 7 July. *Prov. only.*

W. Jennings, King William-street, Greenwich, N.S.W., engineer.

"Improvements in means for deepening harbors and other water ways."

Classes 82.1; 84.8.

3572. 7 July. *Prov. only.*

F. J. Brown, Cornwall-road, Ngaire, N.Z., farmer.

"Improvements in cow bailing appliances."

Class 37.3.

3573. 7 July. *Prov. only.*

F. G. Knight, Olliviers-road, Christchurch, N.Z., engineer.

"Improvements connected with the valves of bicycle and other like tyres."

Class 97.85.

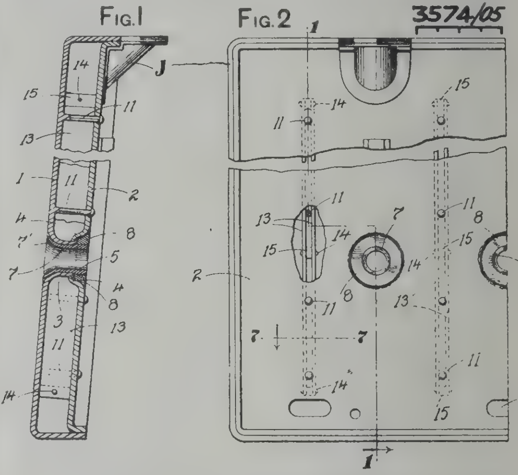
3574. 7 July. C. W. Hawkes, Springfield, Sangamon, Ill., U.S.A., mechanical engineer, and F. Klepetko, Great Falls, Cascade, Montana, U.S.A., consulting engineer.

Furnace jackets, &c.

Classes 16.3; 16.7.

To reduce the liability to leakage, the water jackets of furnaces are constructed of flanged sheets without joints on the furnace side.

The inner sheet 1, Fig. 1, is flanged outwardly at the edges, and the stays are either welded to the inside, as in Fig. 1, or are screwed from the outer sheet 2 into lugs welded to the inner sheet; the tuyere openings 3 are welded with rounded joints, and expanded to connect to the outer sheet; to protect the tuyeres during "barring," liners 7 are fitted and secured by back nuts 8 on the outer side.



To prevent collapsing, **H**-bar spacers may be held between the sheets by rods through the web with nuts on each side; or **T**-bars may be welded to the inner sheet by the web, and the flanges riveted to the outer sheet.

10 *typed pages,* 7 *claims;* 2 *fols. drgs.,* 20 *figs.*

3575. 7 July. A. McLean, Brae Side, Ti Tree Point, Hawkes Bay, N.Z., farmer.

Tyre protector.

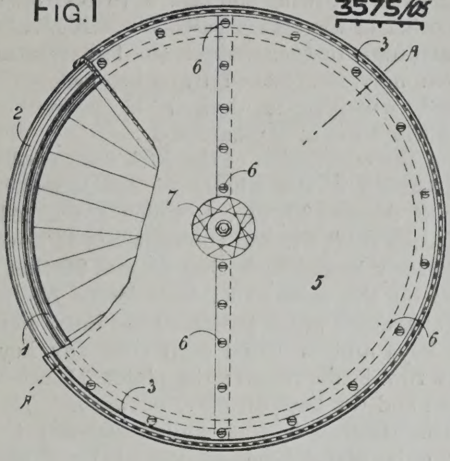
Class 97.89.

The tyre is covered by an external metallic jacket, having a rim 2 of semi-circular section, with side plates 5 attached by screws upon each side of the rim; circular holes 7, cut in the centre of each disc, allow radial displacement at the hub of the wheel.

3 *typed pages,* 2 *claims;* 1 *fol. drg.,* 3 *figs.*

(*For drawing see next page.*)

FIG. 1

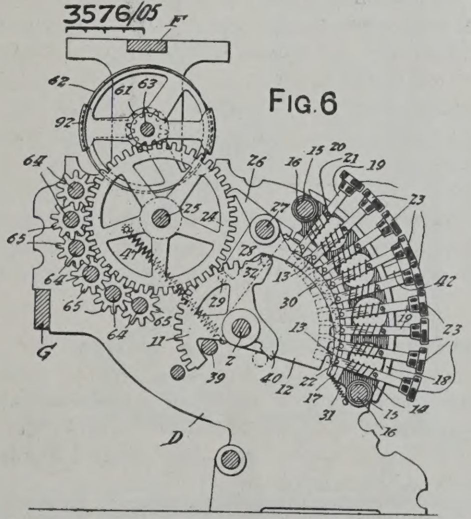


3576. 7 July. F. L. Fuller, 471 Hamilton-avenue, Trenton, Mercer, New Jersey, U.S.A., machinist.

Cash register, &c.

Classes 50.7 ; 55.5 ; 56.2 ; 62.1.

The machine has six vertical rows of radial push keys **23**, Fig. 6, arranged on a cylindrical surface ; five of the rows are for decimal operation to indicate from 1 cent to 999 dollars 99 cents, the row on the left hand carries initial letters for denoting and recording accountant's references ; the keys do not directly operate the indicators or counter gear, but their inner ends form stops which limit the motion of counters, &c., that are subsequently operated by motor-springs **47**, there being a separate motor spring for each row of the decimal numeration.

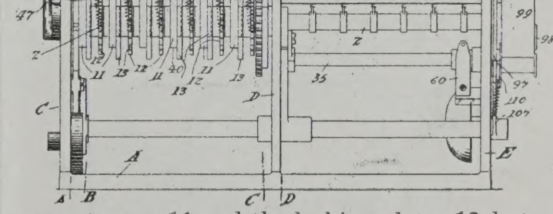


Key locking.—Each key **23** is pressed outward by a spiral spring **20** on its stem ; each vertical row (one row being shown in Fig. 6) has a locking plate **12** swinging freely on the central axis **2** ; when a key is pushed in, a pin on its inner end engages and lifts a latch tooth **13** on the locking plate, which then holds down the key ; if any other key of the same row is pressed, the lifting of the plate **12** releases the key previously set ; thus any money amount, as 765·09 dollars, may be set on the key bank and will stand without any further action on the indicators or counter gear.

Motor spring gear.—For each vertical row there is a driving wheel **24** which has a reciprocating motion on the loose axle **25**, variably limited by the set keys of the various rows ; the keys radiate from the axle **2**, on which is a loose segment-gear **11** (for each row) carrying a pin **32** (dotted outline) which limits the motion by stopping against the inner end of the key that is locked down ; these two gears **11** and **24** are operated by the motor-spring **47** (shown in its extended position in Fig. 6) which is attached from a pin on the wheel **24** to a short arm on plate **12** ; when the detents are unlocked the spring tends to cause the wheel **11** to move clockwise, and to move the wheel **24** in the reverse direction.

Winding gear.—The shaft **2** extends the whole width in Fig. 2 and has an external upstanding handle **3** on the left that may be moved backward and forward through 90 degrees ; the axle **2** passes freely through the segment-gears **11** and the locking plates **12**, but has a long crank-pin **39** which extends across the half machine on the left of Fig. 2 (not shown therein) from an arm keyed on the segment **4**, Fig. 5, to a keyed crank **38**, Fig. 7 ; when the handle **3** is moved backward, the crank-pin **39** moves anti-clockwise from the position numbered in Fig. 6 to the dotted position against the arm **40** of the segment **11**,

FIG. 2



and in so doing moves all the segments that may have been partly advanced at a previous operation back into the zero position as in Fig. 6, and also stretches all the springs **47**.

The boss of crank **38**, Fig. 7, also carries a gear segment **37** (which directly operates the "carrying" wheel **89**). Adjoining **37** is a loose gear-segment **33** that winds up a small coiled motor spring **49** on a pinion **34** which is connected to the shaft **35** by a ratchet, so that each reciprocation of the pinion **35** will cause a full revolution of the shaft in a constant direction; when wound up the segment **33** is locked by detent **36** on shaft **27**, and when released it rotates slowly (being retarded by a fan-train **60**) to cause a series of actions in slow successive order by the cam-work **52** to **59** in Fig. 9.

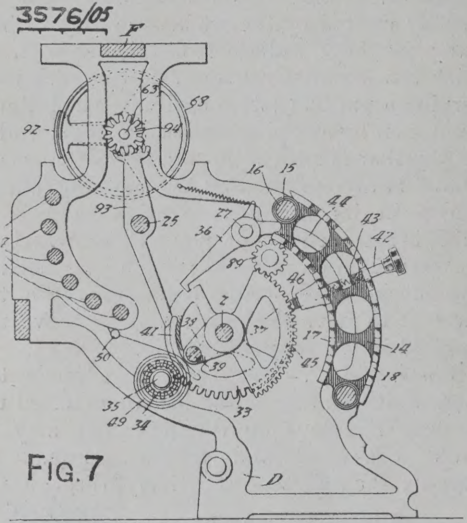
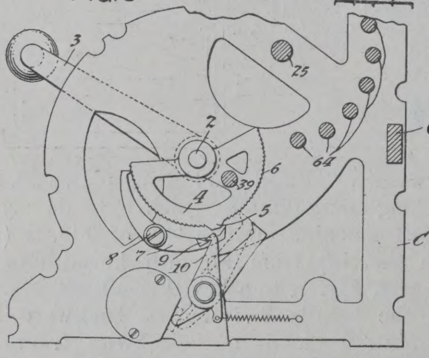


FIG. 7

To compel the handle **3** to make complete strokes, a segment **4**, Fig. 5, with reversed racks **6** separated by a long tooth **5** is keyed on the shaft **2** at the section **A-A**, Fig. 2; either an anchor detent **7** is thrown into engagement with one of the two racks alternately by the long tooth throwing the cam **9** to one side or the other of the spring pawl **10**. Fig. 5 also illustrates a further detent (in two positions) which may be blocked by a key-lock on the frame, when it is desired to prevent unauthorized use of the handle **3**.

FIG. 5



On the completion of the backward stroke of the handle **3**, the wheels **24** are locked by a row of detents **26**, Fig. 6, which are keyed on the same shaft **27**, and the segments **11** are also separately locked by spring detents **28** that are loose on the same axle; each detent **28** has a spiral arm **30** which passes all the inner ends of the keys and is lifted each time any key of that row is depressed; the plates **11** are also lifted and the keys all move outward.

The handle **3** is then pulled forward to its full extent and becomes locked by a spring detent **53**, Fig. 9, falling behind a tooth **54** on shaft **2**.

Setting and releasing.—All the indicators are now at zero, and any "cash" amount may be "set" on the push keys, after which the operator depresses the release key **42**, Fig. 7; the first motion puts its inner stem in the path of a rib (**45** dotted) on segment **37** to prevent premature motion, and complete depression moves the arm **44**, rocking the shaft **27** and releasing all the motor springs **47** and also the spring **49**.

The wheels **24** move immediately, rocking each of the several segments **11** so far as the set keys will allow, and other gearing transmits this setting to the indicators, to the totalizing counter, and to the printing wheels.

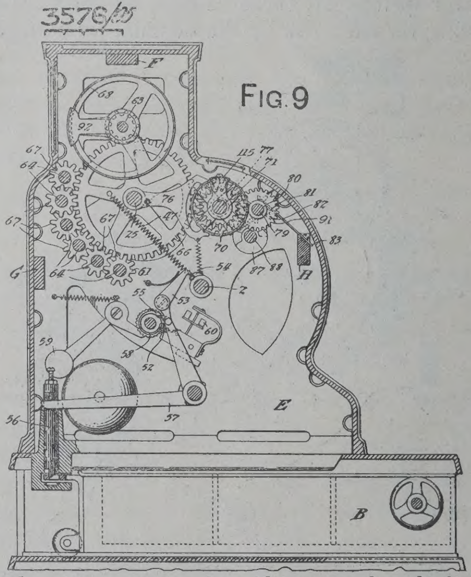


FIG. 9

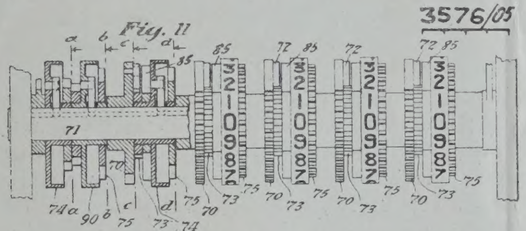
The slow train spring **49** moves the shaft **35** and its cams shown in Fig. 9; cam **52** operates the detent **53**; cam **55** lifts the cash drawer bolt **56**; and cam **58** finally drops the hammer **59** on the gong to announce the completion of the action.

Indicators.—There are two sets of six wheels shown in Fig. 2, the set **62** (with large erect figures) are visible at the operator's side of the machine, and the set **68** (inverted figures) are visible to the purchaser through a slot on the remote side. These indicator wheels **62** are geared to the wheels **24** by six lay shafts **64** (Figs. 6 and 9, one for each power of the numeration) carrying pinions **65** that gear with wheels (similar to the driving wheels **24**) running loose on the shaft **25** and each carrying a purchaser's indicator wheel **68**. The lay shafts also have other wheels operating the totalizer (Fig. 11, &c.), and extensions outside set the type wheels **95** of the printing attachment, Figs. 2 and 17.

At certain positions of the action, the indicators are hidden by shutters **92**, operated by lever **93** and cam **41**, Fig. 7.

Totalizing counters.—The reciprocations of the lay shafts correspond in extent to the "setting" on the several rows of keys, and are converted into continuous directional motion by ratchets **72**, Fig. 11, which feed the five numbered wheels (on the right in Fig. 11) to the exact extent of the setting in each row; there are two extra wheels at the left to totalize up to 99,999 dollars.

Fig. 11



The "carrying" from units to tens in cents and dollars, &c., is done by the device in Figs. 8 and 16. An idle shaft **79** carries five sleeves with star wheels **80** and **81** on each; the wheels at opposite ends of each sleeve are respectively opposite an isolated carrying tooth **85** on a number wheel of lower order, and pposite full gear teeth of higher order; the oth **85** sets the sleeve (steadied by the frame- ng **83**) so that the stepped cams **87**, Fig. 8, will trip each sleeve in slow succession by the action through pinion **89** and slow motor spring **49**, Fig. 7, and adds a digit to the wheel of higher order.

FIG 8

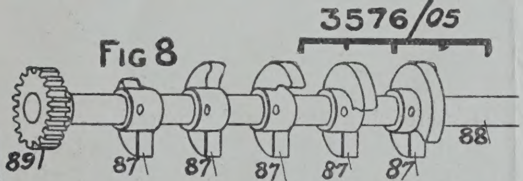
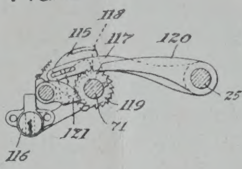


FIG 10



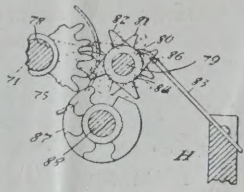


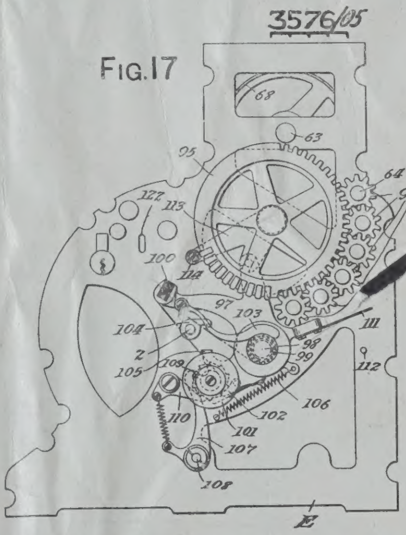
FIG.16

The number wheels **70** are set to zero by turning the shaft **71** by hand; at zero, pawls on the wheels fall into a longitudinal groove **78**, Fig. 16, on the shaft, which thus pick up all the wheels and move them to the zero position.

Fig. 10 shows a pin lock **116** on the frame, the key barrel of which moves a shutter **115** to expose the total figures, and lifts the latch **121** giving access to the record strip casing; the detent **120** must be lifted to allow motion of the shaft **71** for zero setting.

Record printing.—The six wheels **95** (Figs. 2 and 17) carry sectors of type that are inked by the roller **114**, Fig. 17; a frame **97** swings on the stud **98** and carries a paper roll steadied by the friction weight **103**; the strip passes over the platen **100** to the winding roll **109**, which is fed by the detent **110** fixed on the frame; the arm **104** pulls down the frame when the handle 3 is moved backward, and the locking detent **107** is released by the rocking of the shaft **108** when the cash till bolt **56** is lifted; the platen **100** is then pulled up suddenly by the spring **106** and the type wheels print the sale amount on the strip.

FIG.17



In a modification, a longer strip is fed between dating rollers, and, after the amount is printed, a slip is cut off by a knife, at the descent of the bracket 97.

27 *typed pages*, 22 *claims*; 11 *fols. drgs.*, 19 *figs.*

3577. 7 July. *Prov. only.*

H. A. Danne, 50 Carlisle-street, St. Kilda, Vic., electrical engineer.

"Improvements in or connected with burglar alarms for safes and other valuable articles."

Class 88.5.

3578. 7 July. R. A. Kerr, Salt Lake City, Utah, U.S.A., mining engineer, and T. A. Merritt, Duluth, Minn., U.S.A., estate broker.

Cyaniding vat, &c.

Classes 10.8; 14.7; 28.1.

A rectangular vat **A** has a curved or flat bottom of filter cloth on curved battens **C**, Fig. 3, leaving a space beneath leading to the vent **a1**, Fig. 1; the filter cloth continues up the sides over strips **B**, and also over filtering partitions **L**, **L**, Fig. 2; a central shaft **B** passing through stuffing box **I**, **I** carries mixing blades **e**, **e**.

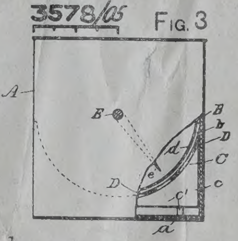


Fig. 3

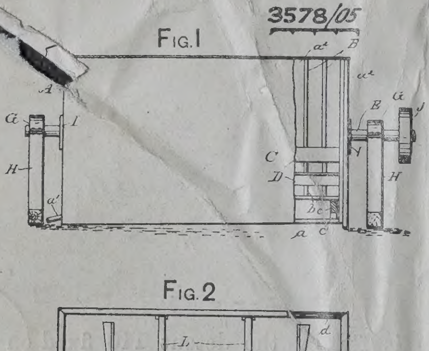


Fig. 1

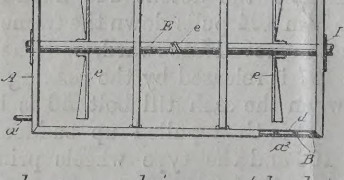


Fig. 2

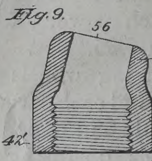
5 *typed pages*, 2 *claims*; 2 *fols. drgs.*, 5 *figs.*

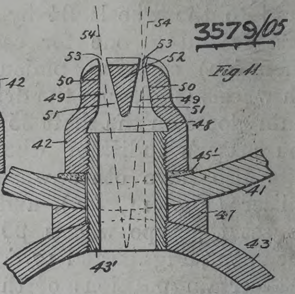
3579. 7 July. J. L. Weaver, Boise, Ada, Idaho, U.S.A., manufacturer.

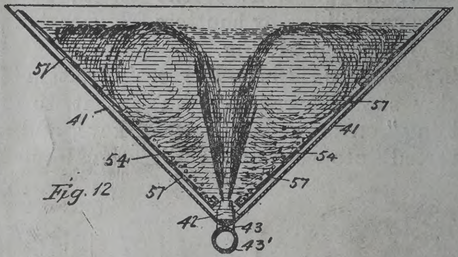
Placer amalgamating plant.

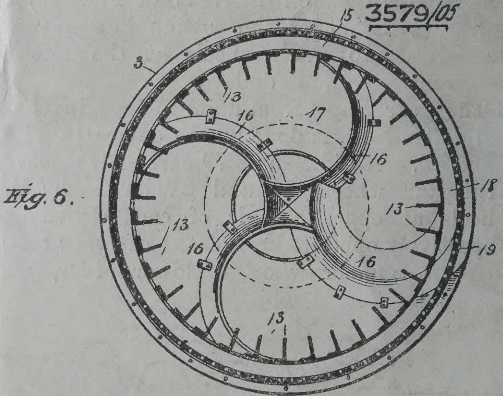
Classes 11.3; 11.9; 13.2; 74.9.

The fine and medium material passing through a grizzly is conveyed by a spiral creeper into the mouth **6** of a rotating trommel, Fig. 4, having a double tube **12**, **14**; the coarsely perforated inner tube **12** has long pitch ribs which convey the gravel towards the exit; the outer tube **14** is more finely perforated and has short pitch ribs forming spiral vanes; at the delivery end are four volute blades **16**, Fig. 6, which lift the stones to the discharge **9**, whence they fall on a conveyor for removal.









The screenings passing through the perforations in the outer tube **14** fall into the head of a **V**-mixing trough (in section Fig. 12), along the bottom of which are a row of jets **42**, Fig. 9, pointing a little towards the receiving end ar delivering water at 60 to 80 pounds pressu